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 ${\tt MSGALDVLQMKEEDVLKFLAAGTHLGGTNLDLQMEQYIYKRKSDGIYIINLKGTWEKLLLAARAIVAIENPADVS} \\ {\tt VISSRNTGQRAVLKFAAATGATPIAGHFTPGTFTNQIQAAFWEPWLLMVTDPRG}$

AAAGGGAAACTTTCACAATGTCCGGAGCCCTTGATGTCCTGCAAATGAAGGAGGAGGATGTCCTTAAGTTCCTTG
CAGCAGGAACCCACTTAGGTGGCACCAATCTTGACTTACAGATGGAACAGTATATCTATAAAAGGAAAAGTGATG
GCATCTACATCATAAATCTGAAGGGAACCTGGGAGAAGCTTCTGCTGGCAGCTCGTGCTATTGTTGCCATTGAAA
ACCCTGCTGATGTCAGTGTTATATCCTCCAGGAATACTGGCCAGAGGGCTGTGCTGAAGTTTGCTGCTGCCACTG
GAGCCACTCCAATTGCTGGCCACTTCACTCCTGGAACCTTCACTAACCAGATCCAGGCATCTTATGTTAATCTAC
CTACCATCGCTCTGTGTAACACAGATTCTCCTCTGCGCTATGTGGACATTGCCATCCCGTGCAACAACAAGGGAG
CTCACTGAGTGGGTTTGATGTGGTGGATGCTGGCTCGGGAAGTACTGTGCATGCGTGGCACCATTTCCCGTGAAC
ACCCATGGGAGGTCATGCCTGATCTCTGCTTCTACAGAGATCCTGAAGAGATTGAAAAAGAAGAGAGCAGCTGCTG
CTGA

MSGALDVLQMKEEDVLKFLTAGTHLGGTNLDFQMEQYIYKRRSDGIYIINLKRTWEKLLLAARAIVAIENPAVVS VISSRNTGQRAVLKFAAVTGATPIAGRFTPGNFTNQIQEASYVNLPTIALCNTDSPLHFVDIAIPCNNKGAH

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 ${\tt AGGTAGCAAG}$ GGAAAGTGCTCTTGATGATTTCGATAAAGCCAAACCCTCCCCAGCACCCCCTTCTACCACCACGGCCCCTGATGC TTCGGGGCCCCAGAAGAGATCGCCAGGAGACACTGCCAAAGATGCCCTCTTCGCTTCCCAAGAGAAGTTTTTCCA GGAACTATTCGACAGTGAACTGGCTTCCCAAGCCACTGCGGAGTTCGAGAAGGCAATGAAGGAGTTGGCTGAGGA AGAACCCCACCTGGTGGAGCAGTTCCAAAAGCTCTCAGAGGCTGCAGGGGAGAGTGGGCAGTGATATGACCTCCCA ACAAGAATTCACTTCTTGCCTAAAGGAAACACTAAGTGGATTAGCCAAAAATGCCACTGACCTTCAGAACTCCAG CATGTCGGAAGAAGAGCTGACCAAGGCCATGGAGGGCTAGGCATGGACGAAGGGGATGGGGAAGGGAACATCCT CCCCATCATGCAGAGTATTATGCAGAACCTACTCTCCAAGGATGTGCTGTACCCATCACTGAAGGAGATCACAGA AAAGTATCCAGAATGGTTGCAGAGTCATCGGGAATCTCTACCTCCAGAGCAGTTTGAAAAATATCAGGAGCAGCA GCCTCCTGGCCTCAACTTTGACCTGGATGCCCTCAATCTTTCGGGCCCACCAGGTGCCAGTGGTGAACAGTGTCT GATCATGTGAAACACAACACGTTTTCCTCTCTGAGTCCCAGCTATGGGGAACATCTGGAGTCAGCAGAACCATTG GGACCTGAGGCAGGAGTGTCACCTGCGGGAGAAGTCTGCCCGCTGCCCTCTGTCATCCCATTCAAGATTGTGCCA TACCAGCTGAGGTTTTTCCTCTGTCTCTCTAGGAATAGGGTCTGTTTCACAGGCCATTTCTGTGAACCCTACTCC TTCTTTCCTTTCTCAAAATAATGTTATATGTGGCCACACTGATGTTCACCTTTACGTCCAGGGTCTTTGTGCCTT AGAGCCTTTGAGAATGGGGAGAAACAGCCTGGGCTGGGGCTACAGGTCTGTCACTATGCTCTCTTGCCTTCAGAC AGACCATTCTGAATTCTCTAAAGGGAAAGGGCTTTTGCATCTAATCACAATAGAGTTGAAAGAGAGGCCTTAGGA TTCTCCTCTCTAGGTGCTGAGCCCTCACCTCCCTGTTCCAGGCTGAGAACTCAAATGGTTACCCTGCTTCTTC CTACAATGCTGTGTGATATGGGTGAACCCAGCCCCTGACCTTCCTCTATCCCCTGCCCATCCTCCTTTTACCTC CTCTCTTTTTTAAACACCTGTTTATCCCAACCTTTTTGAGCTCAAGCTGTGATAAAGAAGGGCCCATCCTATTTC CCCTCATCTAGTCCATTTACGATTCTCACTGACTCCCCGTCTTCCTGGCAGACACAAATAAACCCAGTGTCAGGT CTAGGAAATTAATGGCTATTCTTCCCCAGATACATTCTGGCTTATTTGAGATACATGATTCTCTTAGAATCCTGT CCCTTGGTTCAGGAAAGTAGCTTGGAAAAGGAGTAGGGGTATAGCTTGGGTCCCTTTTCCTGCAAGGCCCCATGG GGCAGAATATAATAATATTCTGAGTGAGGAGTGTGGTCTTTTTCTGATCTTCCTCAGCTTCCGTAAGTTGCAGA GTGAGGTATATTAGGAGACTAGTTCTACACAATATTGTAATGCTGGGTTCCATCAACACCCCACCTTCCACAACTC AGTCTGCACCTCAGTTGGCAAAGGAGACTGGATGGCCATCTTTCCTCATGTTCCCTTGAGTATTTCAATGTAGAA AGCCCTTCAAGTGGTATTATATTTTAACCTTTTACATTATTGTTATTAATGTTAGTAATATATTGTTATGTTTTC TAAATTATTTTTCTTTAAGCTGACGTGGCTTTTTTTCTGTGGCTCCCAGTGGGTCTACGGACCTTGGCTGACATA TGTTGGTAGGTACTCTGGTCAGCTCAGCTGGCTGTCCTGGTTCACTCAGAAGATAAGTCTCTCCAAAGCAAATTC ACATGCATTATGAGTCGCTTTGAGCTTCTGACATGTCACTTGCCCCGAGGTTAAAACTTTTCACCCCTTGAAGAC CTTACATGTTTTATGGTATTGGTGAGGAAGGAAATGTTCTCAAGGTCTCAGGCTATTTGGGAAATTCCAACTCCT ATACCTTACCAGAGCATGGAAGAGCCCAGATCTGAATGTAAAACGTCTCTGTTCTGCCAGAGATGGAAAAAATAC AGGTATACTTGTGATATAGTCATGGGGCTTCAGTGTCACTATTTTCTCCTTAAAGCTCCAGCCAAAAACTGGACA AGGATAGAGAGGAGGAGGAAGAACAAAAGAGCCCTTCTCTATGAACCTTGTGCCTTCTGTCCTACCAGTTTTCT TTTACAGATTCTCACTTCTGCTAGCCTAGCCAGGGCTTACTCCAGGAATCTAAATAGATGCCCTAGTCCACTTTA TTCCAAAAACTTTTGGAATTATTCCAGGACTTGTGGTGGAGTTATGGTACTCTAGGGCAGTCTTTCTCAAACTAT GTATGGTAAAGGACCAGGTTTTTTGTTTTCCAGTCCTTCACTTATCAATATGCATTCCTATTGCCGATGACAGGT ATGGAGTTCACACTGTGTGCTGCCGACCCGGCAAGTTTGACAGCACCCAAACTGGCCAGACTGTTCTGTAGGTTA AGTCCATTGATCATGTACTTGGATATCACAGCAACATTGAAATGCTAAAAAGTTTTTAAACACTCTCAATTTCTA CTCCTATTTGAGTTTCACTTCCAGAGAACTTGTTCTTCAGCAAGAATGTGTCACTAGTAAGGACATCTCTAGCAT TTCTCTAGCCTTCCTTTTCTGCTGCTCAAAAATAATCGTTACAAAGCTTAGGTTTAAGCTGTATATGAAATATTT ATGCGACTCTCAAACTTTAAAGGAGTTGCTCCTTTGTTCCAAAATTAAATGTGTTAGATAAATTTGTGATTGTAT WO 2004/030615 PCT/US2003/028547

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MAAAEEGCSVGAEADRELEELLESALDDFDKAKPSPAPPSTTTAPDASGPQKRSPGDTAKDALFASQEKFFQELF DSELASQATAEFEKAMKELAEEEPHLVEQFQKLSEAAGRVGSDMTSQQEFTSCLKETLSGLAKNATDLQNSSMSE EELTKAMEGLGMDEGDGEGNILPIMQSIMQNLLSKDVLYPSLKEITEKYPEWLQSHRESLPPEQFEKYQEQHSVM CKICEQFEAETPTDSETTQKARFEMVLDLMQQLQDLGHPPKELAGEMPPGLNFDLDALNLSGPPGASGEQCLIM

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GGGGGGACAGAGGGCAGCAGGAACCAGAAGGGAGACAGTGGCGGTCGCGGGGGCCGATCCGAGAGTTCCCCT TAGAGAACGGAGCTCACGGGCGGGGGGCCTCACCTGCTAGTAGGACGCAGAAAGACAGAAGGCGAAGGAGACCC CGACTTCCCGGGTCAGCCCCAGAGCCACCCCCTGCCGTAGCCATCTTGCCTCTGCTGAGCGGAAGCCCCCGTT CGGCTCCTGTCTGTTAGCGGCCTCTCTAGGCTACCACTGACACCGTCTCTGTGGCCCGGAGCCTAAGAGACCGGA AGTTCGTGTTTCCAGGCGCTTCCGGAAACCGCGGGAGAGGGTCGCTGACGTGGAGGCGTCCGAAGGGCAGCAGGG TGTGTCGGGGCTCGGATTAAGACATCGGAGTCGGAGACCTGAGAGATGTTAACCAAATTCGAGACCAAGAGCGCG CGGGTCAAAGGGCTCAGCTTTCACCCCAAAAGACCTTGGATCCTGACTAGTTTACATAATGGGGTCATCCAGTTA TGGGACTATCGGATGTGCACTCTCATTGACAAGTTTGATGAACATGATGGTCCAGTGCGAGGCATTGACTTCCAT AAGCAGCCACTGTTCGTCTCTGGAGGAGATGACTATAAGATTAAGGTTTGGAATTACAAGCTTCGGCGCTGT CTTTTCACATTGCTTGGGCACTTAGATTATATTCGCACCACGTTTTTTCATCATGAATATCCCTGGATTCTGAGT GCCTCCGATGATCAGACCATCCGAGTGTGGAACTGGCAATCTAGAACCTGTGTTTGTGTGTTAACAGGGCACAAC GTTTGGGATATTTCTGGTCTGAGGAAAAAAAACCTGTCCCCTGGTGCGGTGGAATCGGATGTGAGAGGAATAACT GGGGTTGATCTATTTGGAACTACAGATGCAGTGGTGAAGCATGTACTAGAGGGTCACGATCGTGGAGTAAACTGG GCTGCCTTCCACCCCACTATGCCCCTTATTGTATCTGGGGCAGATGATCGTCAAGTGAAGATCTGGCGCATGAAT GAATCAAAGGCATGGGAGGTTGATACCTGCCGGGGCCATTACAACAATGTATCTTGTGCCGTCTTCCACCCTCGC CAAGAGTTGATCCTCAGCAATTCTGAGGACAAGAGTATTCGAGTCTGGGATATGTCTAAGCGGACTGGGGTTCAG ACTTTCCGCAGAGACCATGATCGTTTCTGGGTCCTAGCTGCTCACCCTAACCTTAACCTCTTTGCAGCAGGCCAT GATGGTGGTATGATTGTGTTTAAGCTGGAACGGGAACGGCCAGCCTATGCTGTTCATGGCAATATGCTACACTAT GTCAAGGACCGATTCTTACGACAGCTGGATTTCAACAGCTCCAAAGATGTAGCTGTGATGCAGTTGCGGAGTGGT TCCAAGTTTCCAGTATTCAATATGTCATACAATCCAGCAGAAAATGCAGTCCTGCTTTGTACAAGAGCTAGCAAT CTAGAGAATAGTACCTATGACCTGTACACCATCCCTAAAGATGCTGACTCCCAGAATCCTGATGCGCCTGAAGGG AAACGATCCTCAGGCCTGACAGCCGTTTGGGTCGCTCGAAATCGGTTTGCTGTCCTAGATCGGATGCATTCGCTT CTGATCAAGAATCTGAAGAATGAGATCACCAAAAAGGTACAGGTGCCCAACTGTGATGAGATCTTCTATGCTGGC ACAGGCAATCTCCTGCTTCGAGATGCGGACTCTATCACACTCTTTGACGTACAGCAGAAGCGGACTCTGGCATCT GTGAAGATTTCTAAAGTGAAATACGTTATCTGGTCAGCAGACATGTCACATGTAGCACTACTAGCCAAACACGCC ATTGTGATCTGTAACCGCAAACTGGATGCTTTATGTAACATTCATGAGAACATTCGTGTCAAGAGTGGGGCCTGG GATGAGAGTGGGGTATTTATCTATACCACAAGCAACCACATCAAATATGCTGTCACCACTGGGGACCACGGGATC ATTCGAACTCTGGATTTACCCATCTATGTCACACGGGTGAAGGGCAACAATGTATACTGCCTAGACAGGGAGTGT CGTCCCCGGGTACTCACCATTGATCCCACTGAGTTCAAATTCAAGCTGGCCCTGATCAACAGAAAATATGATGAG GTACTGCACATGGTGAGGAATGCCAAACTAGTTGGCCAGTCTATTATTGCTTATCTCCAGAAGAAGGGCTATCCT GAAGTGGCACTGCATTTTGTCAAGGATGAGAAAACTCGCTTTAGTCTGGCACTGGAGTGTGGAAACATTGAGATT GCTCTGGAAGCAGCCAAAGCACTGGATGACAAGAACTGCTGGGAAAAGCTGGGAGAAGTGGCCCTGCTGCAGGGG GGCAACTTAGAAAAACTTCGCAAGATGATGAAGATTGCTGAGATCAGAAAGGACATGAGTGGCCACTATCAGAAT GCCCTATACCTGGGTGATGTCAGAGCGTGTGCGGATCCTGAAGAACTGTGGACAGAAGTCCCTGGCCTATCTC ACAGCTGCTACCCATGGCTTAGATGAAGAAGCTGAGAGCCTAAAGGAGACATTTGACCCAGAGAAGGAGACAATC CCAGACATTGACCCTAATGCCAAGCTGCTCCAGCCACCTGCACCTATCATGCCATTGGATACCAATTGGCCTTTA TTGACTGTATCCAAAGGATTTTTTGAAGGCACCATTGCCAGCAAAGGGAAGGGAGGAGCACTGGCTGACATT GACATTGACACTGTTGGTACAGAGGGCTGGGGAGAGGATGCAGAGCTGCAGTTGGATGAAGATGGGTTTGTGGAG GCTACAGAAGGTTTGGGGGATGATGCTCTTGGCAAGGGACAGGAAGAAGGAGGTGGCTGGGATGTAGAAGAAGAT CTGGAGCTCCCTCCTGAGCTGGATATATCCCCTGGGGCAGCTGGTGGGGCTGAAGATGGTTTCTTTGTGCCCCCA ACCAAGGGAACAAGTCCAACTCAGATCTGGTGTAATAACTCTCAGCTTCCAGTTGATCACATCCTGGCAGGCTCT TTCGAAACAGCCATGCGGCTCCTTCATGACCAAGTAGGGGTAATCCAGTTTGGCCCCTACAAGCAACTGTTCCTA CAGACATACGCCCGAGGCCGCACAACCTATCAGGCTCTGCCCTGCCTACCCTCCATGTATGGCTATCCTAATCGC AACTGGAAGGATGCAGGGCTGAAGAATGGTGTACCAGCTGTGGGCCTGAAGCTTAATGACCTCATCCAACGGTTG CAGCTGTGCTACCAGCTCACCACAGTTGGCAAATTTGAGGAGGCTGTGGAAAAATTCCGTTCCATCCTTCTCAGT

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GTGCCACTTCTTGTTGTGGACAATAAACAAGAGATTGCAGAGGCCCAGCAGCTCATCACCATTTGCCGTGAGTAC ATTGTGGGTTTGTCCGTGGAGACAGAAAGGAAGAGACTCCAAAGAGACTCTAGAACAGCAGAAGCGCATCTGT GAGATGGCAGCCTATTTCACCCACTCAAACCTGCAGCCTGTGCACATGATCCTGGTGCTGCGTACAGCCCTCAAT CTGTTCTTCAAGCTCAAGAACTTCAAGACAGCTGCCACCTTTGCTCGGCGCCCTACTAGAACTCGGGCCCAAGCCT GAGGTGGCCCAACAGACCCGAAAAATCCTGTCTGCCTGTGAGAAGAATCCCACAGATGCCTACCAGCTCAATTAT GACATGCACAACCCCTTTGACATTTGTGCTGCATCATATCGGCCCATCTACCGTGGAAAGCCAGTAGAAAAGTGT CCACTCAGTGGGGCCTGCTATTCCCCTGAGTTCAAAGGTCAAATCTGCAGGGTCACCACAGTGACAGAGATTGGC ATATGTTCCCCCCAGAGAATGTGTCTATATCCTCCTTCTAACAGCACCTTCCCCCTGCAGCTACTCTTCAGATCT GGCTCTCTGTACCCTAAAACCTAGTATCTTTTTCTCTTTCTATGGAAAATCCGAAGGTCTAAACTTGACTTTTTTG AGGTCTTCTCAACTTGACTACAGTTGTGCTCATAATTGTCCTTGCCTTTCCAGCTTAATTATTTTAAGGAACAAA TGAAAACTCTGGGCTGGGTGGAGTGGCTCATACCTGTAATCCCAGCACTTTGGGAGGCTACGGTGGGCAGATCAT CTGAGGCCAGGAGTTCGAGACCTGCCTGGCCAACATGGCAACACCCCGTCTCTAATAAAAATATAAAAATTAGCC TGGCATGGTAGCATGCGCCTATAGTCCCAGCTGCTCAGGAGGCTGAGGCATGAGAATCGCTTGAACCTAGGAGGT GGAGGTTGCATTCAACTGAGATCATACCACTTCATTCCAGCCTGGGTGACAGAGCAAGACTCTGTCTCAAAAAAA AAAAAAAGGAAAACTCTGTGATGGACATTTGTTTAGTAAATCCCTTCAGTATTTATCCCTCCTTTCCCCACAGCA TAATCATCTCCCATTTTCCTTAGACATTTAAATTTCAAGGCAGGTACCCTCTGTGTACTCAGAAATTTGAAGAAG TTATTTGGTTTTCCAAAATGCACACTGCGGGTTATTGATTTGTTCTTTACAACTATTGTTCTCACA CTAAATAAATCTCTATGAGAGCTTCTTG

AGCTGCGGTGTTGTGCTGTGGGGAAGGAAGGATTTGTAAACCCCGGAGTGAGGTTCTGCTTACCCGAGGCCG CTGCTGTGCGGAGACCCCCGGGTGAAGCCACTGTCATCATGTCTGACCAGGAGGCAAAACCTTCAACTGAGGACT TGGGGGATAAGAAGGAAGGTGAATATATTAAACTCAAAGTCATTGGACAGGATAGCAGTGAGATTCACTTCAAAG TGGTTCCAATGAATTCATTCAGGTTTCTCTTTGAGGGTCAGAGAATTGCTGATAATCATACTCC

GTTTGCCAAAATCCCAGGCAGCATGGACCTCAGTCTTCTCTGGGTACTTCTGCCCCTAGTCACCATGGCCTGGGG CCAGTATGGCGATTATGGATACCCATACCAGCAGTATCATGACTACAGCGATGATGGGTGGATTTTGAACCG TTCTGACAGACAATGGAACTACGCCTGCATGCCCACGCCACAGAGCCTCGGGGAACCCACGGAGTGCTGGTGGGA GGAGATCAACAGGGCTGGCATGGAATGGTACCAGACGTGCTCCAACAATGGGCTGGTGGCAGGATTCCAGAGCCG CTACTTCGAGTCAGTGCTGGATCGGGAGTGGCAGTTTTACTGTTGTCGCTACAGCAAGAGGTGCCCATATTCCTG CTGGCTAACAACAGAATATCCAGGTCACTATGGTGAGGAAATGGACATGATTTCCTACAATTATGATTACTATAT CCGAGGAGCAACAACCACTTTCTCTGCAGTGGAAAGGGATCGCCAGTGGAAGTTCATAATGTGCCGGATGACTGA ATACGACTGTGAATTTGCAAATGTTTAGATTTGCCACATACCAAATCTGGGTGAAAGGAAAGGGGCCGGGGACAG CTGGTAACTGCAATGCCAACTTCCTGGGCCTTTCTGACTAGTATCACACTTCTAATAAAATCCACAATTAAACCA TGTTTCTCACTTTTCACATGTTTCATAGCAACTGCTTTATATGACTGATGATGGCTTCCTTGCACACCACATATA CAGTGCGCATGCTTACAGCCGGGCTTCTGGAGCACCAGCTGCAGCCTGGCTACTGCTTTTTACTGCAGAATGAAC TGCAAGTTCAGCATAGTGGAGGGGAGAGGCAGAACTGGAGGAGGAGGTGCAGTGAAGGTTCTCTACAGCTAAGCCT GTTTGAATGATACGTAGGTTCCCCACCAAAAGCAGGCTTTCTGCCCTGAGGGACATCTTCCCACTCCCCTGCTCC ACATGAGCCATGCATGCTTAGCAATCCAAGTGCAGAGCTCTTTGCTCCAGGAGTGAGGAGACTGGGAGGTGAAAT GGGGAAATGGAAGGGTTTGGAGGCAGAGCTGAAAACAGGGTTGGAAGGATTTCCTGAATTAGAAGACAAACGTTA GCATACCCAGTAAGGAAAATGAGTGCAGGGGCCAGGGGAACCCGTGAGGATCACTCTCAAATGAGATTAAAAACA AGGAAGCAGAATGGTCAGAGAATGGGATTCAGATTGGGAACTTGTGGGGATGAGAGTGACCAGGTTGAACTGG GAAGTGGAAAAAGGAGTTTGAGTCACTGGCACCTAGAAGCCTGCCCACGATTCCTAGGAAGGCTGGCAGACACCC TGGAACCCTGGGGAGCTACTGGCAAACTCTCCTGGATTGGGCCTGATTTTTTTGGTGGGAAAGGCTGCCCTGGGG ATCAACTTTCCTTCTGTGTGTGGCTCAGGAGTTCTTCTGCAGAGATGGCGCTATCTTTCCTCCTCCTGTGATGTC CTGCTCCCAACCATTTGTACTCTTCATTACAAAAGAAATAAAAATATTAACGTTC

MDLSLLWVLLPLVTMAWGQYGDYGYPYQQYHDYSDDGWVNLNRQGFSYQCPQGQVIVAVRSIFSKKEGSDRQWNY ACMPTPQSLGEPTECWWEEINRAGMEWYQTCSNNGLVAGFQSRYFESVLDREWQFYCCRYSKRCPYSCWLTTEYP GHYGEEMDMISYNYDYYIRGATTTFSAVERDRQWKFIMCRMTEYDCEFANV WO 2004/030615 PCT/US2003/028547

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AGAGGAAGCCAAGAACGGTGAAAAGGCCAGGCGGAGTTCAGAGGAGGTGGACGGCCAGCACCCGGCCCAAGAGGA GGTCCCGGAATCGCCCCAGACCTCTGGCCCAGAGGCAGAAAATAGGTGTGGGAGCCCCAGGGAGGAAAAGCCAGC ACATGACAGCCAAGAAACAAAGAAGCTGGAGGAGGAGCTGCAGTGAAGGAGACCCCCCACAGTCCCCCTGGAGG ${\tt GGAGGATGACACTCCTGTCCAGGACACTAAAATG}{{\tt TGA}}{\tt AGAACAGCTCATTGTGCCCCAGTGATGAAGTTGCTGGA}$ CACATCTCTTTGCAGGTAGCAGCAACAGTTGTAGCAGCAGCAGACGAAGCCATTGCAGAGGCAGAATATGCTGAG TGTCTGGAGTCAGCCTGAAGACACAGGGTGGATTATTTCCTGGCCTCCACACCAAACGTTCCCTTGCAGATGGAG ACTGAATCTGAGGGCAGCAGACTTTTATCAGCTTGAGTTTATGTCATTTGATGGACTTGGTTCAACAACAAGAAC TTACTTAAAACAATGTACTGTGGTGATGAGTCCCAGGGGCACTGGTCAGCCTGTGGAGCCCTGGATGCTATCCAC ACCCACCTATCCCTGCAGCTAATTTAGCTGATCTCTAATTTAACTGAGCTCTAATTTAGCTGATCAGATTTTGCT TGGGTAAAGTTCCTTTTTAATGTTCTAAAGTGTTTACGGTTCTCAAATATCAGTTAAAAACTAATTTTAGGTGGC CATAAACATAAAATAGAAACCCTGTAAGTTACAGAAGACCCTAAATTGTATCAAAACCCTAGAGACAACTTTTCA ATTTGATCCAAATTTGAACTGGCCAACCAGTCTTTAAAACACTGGACTAGAAGAGATAATGATTGAAACATTTAA AAAAAAAAGTGCTCCATTCGCAGGAGCTTTTCCTGTCCTGTGGTTTTCCAGTTGGTGACCACCATGGGAGGTCG CTGGCTCGCCTCACCCCTTCTCCCACCCTTGAGAATGTGGAGAACTCCCATGGAGAGGCAGAATGGCAGGAGGT TTCATGTCCCGCGTTGCATCTCCTCCTGAAAGAAAAGCAGTGATACCTGAATAATGCTGGCTCTCCGATTGATCC TGTGAGGATGAATTTGCATTTCCAGAATCCTTGAGCATGGATTAGATGTTTCCTGGGAGGTGCCTTGAGTACCAT TATGTGCAAGCTACATAATTAAAACATTTTTCTTAGTTTCCCTGGGAAGCTTTTCTTGACTCACAGCCCAGGTTC TTCTGCCCAACACAAAAGGAGTGAGTTGGGGTCTTTAGTCTCTTATTGGGTAGCTCTTGCTTTAATATTCTG TTTGGTGAGTGTAAGGGATTCTGCAAGGGACAGGGGCCTGACTACCCAGTCTTTGACTTGTATCCTCTCCCCTC TATTTTAATGTCTCAGTGTGCTGATTTGGTAGTTGGAAGAATTATTCTTCTGGAGGTCTGTTAGACTACATCCTA CACTGACTTCAGAAAACAGTCTGTCAGACAAAAAGGCCTTATGTCACCACTGGTACCTCAGTTTCCTCATCCCAT GTAGTTTGTAATTTGTAACAAACTTGTAACCTGGTTGGGACTGATATTGTCATAGCTATGATAAACTTTGGATAT

 ${\tt MEKATEVKGERVQNEEVGPEHDSQETKKLEEGAAVKETPHSPPGGVKGGDVPKQEKGKEKQQEGAVLEPGCSPQTGPAQLETSSEVQSEPAVPKPEDDTPVQDTKM}$

GGACGTTGAGAGAACGAGGAGGAGGAGAGAAAATGGCATCCATGGATTACAGTACCTATAGCCAAGCTGCAGCG CAGCAGGGCTACAGTGCTTACAACACCCAGCCCACTCAAGGATATGCACAGACCACCCAGGCATATGGGCAACAA AGCTATGGAACCTATGGACAGCCCATTGATGTCAGCTATACCCAGGCTCAGACCACTGCAATCTATGGGCAGACC GTCCAGGGGTATGGCACTGGTGCTTATGATACCACCACTGCTACAGTCACCACCCAGGCCTCCTATGCAGCT CAATCTGCATATGGCACTCAGCCTTATCCAGCTTATGGGCAGCCAGTAGCCACTGCACCTACAAGACTG CAGAATGGAAACAAGCCCACTGAGACTAGTCAACCTCAATCTAGCACAGGGGGTTACAACCAGCCCAGCCTAGGA TATGGACAGAGTAACTGCAGTTATCCCCAGGTACCTGGGAGCTACTCCATGCAGCCAGTCACCGCACCTCCATCC TACCCTCCTACCAGCTATTCCTCTACACAGCCAACTAGTTATGATCAGAGCAGTTACTCTCAGCAGAACACCTAT GGGAAACCGAGCAGCTATGGACAGCAGAGTAGCTATGGTCAACAAAGCAGCTATGGGCAGCTGCCTCCCACTAGT TACCCACCCCAAACTTGATCCTACAGCCAAGCTCCAAGTCAGTATAGCTAACAGAGCAGCAGCTACGGGCAGCAG AGTTCATTCTGACAGGACCACCCCAGTAGCATCGGGTGTTTATGGGCAGGAGTCTGGAGGATTTTCCGGACTAGGA GAGAACCGGAGCATGAGTGGCCCTGATAACTGGGGCAGGGGAAGAGGGGGGATTTGATCGTGGAGGCATGAGCAGA GGTGGGCGGGGAGGATGCGGTGGAATGGGCAGCGCTGGAGAGCAAGTTGGCTTCAATAAGCCTGGTGGACCC ATGGATGAAGGACCAGATCTTGATCTAGGCCCACCTGTAGATCCAGATGAAGACTCTGACAACAGTGCAATTTAT GTACAAGGATTAAATGACAATGTGACTCTAGATGATCTGGTAGACTTCTTTAAGCAGTGTGGGGTTGTTAAGATG AACAAGAGAACTGAGCAACCCATGATCCACACCTACCTGGACAAGGAAACAAGAAAGCCCAAAGGTGATGCCACA GTGTCCTGTGAAGACTCACCTACTGCCAAAGCTGCCGTGGAATGGTTTGATGGGAAAGATTTTCAAGGGAGCAAA CTTAAAGTCTCTCTTGCTCGGAAGAGGCCTCCAGTGAACAGTATGCAGGGTGGTATGCCACCCCATGAGGGCAGA GGGATGCCACCACCACTCTGCGGAGGTCCAGGAGGCCCAGGAAGTCCTGGGGGACCCATGGGTCACATGGGAGGC CGTGGAGGAGATAGAGGAGGCCTCCCTCCAAGAGGACCCCAGGGTTCCCGAGGGAACACCTCTGGAGGAAAAC GTCCAGCACCAAGCTGGAGACAGGCAGTGTCCCAATCCGGGTTGTGGAAACCAGAACTTCGCCTGGAGAACAGAG AGCAACAAGTGTAAGGCTCCAAAGCCTGAAGGCTTCCTCCCGCCACCCTTCCCACCCCGGGTGGTGATCATGGC AGAGGTGGCCCTGGTGGCATGTGGGGAGGAAGAGGTGGCCTCATGGATCATGGTGGTCCCGGTGGAATGTTCAGA GGTGGCTGTGGTAGAGACAGAAGTGGCTTCTGTGGTGGCTGGGCATGGACCGAGGTGGCTTTGGTGGAGGAAGAC AAGGTGGCCCTGGGGGGCCCCCGGACCTTTGATGTAACCAATGGGAGGAAGAAGAAGAGGAGGACG<u>TGA</u>AGGACCTGG AAAAACGGATAAAGGCGAGCACTGTCAGGAGCGCAGAGATCAGCCCTACTAGATGCAGAGAACCCGCAGAGCTGC ATTGACTACCAGATTTATTTTTTAAACCAGAAAATGTTTTAAATTTATAATTCCATATTTATAATGTTGGCCACA ACATTATGATTATTCTTTCTCTGTACTTTAGTATTTTTCACCATTTGTGAAGAAACATTAAAACAAGTTAAATGG TA

MGVYGQESGGFSGLGENRSMSGPDNWGRGRGGFDRGGMSRGGRGGGCGGMGSAGEQVGFNKPGGPMDEGPDLDLG
PPVDPDEDSDNSAIYVQGLNDNVTLDDLVDFFKQCGVVKMNKRTEQPMIHTYLDKETRKPKGDATVSCEDSPTAK
AAVEWFDGKDFQGSKLKVSLARKRPPVNSMQGGMPPHEGRGMPPPLCGGPGGPGSPGGPMGHMGGRGGDRGGLPP
RGPQGSRGNTSGGGNVQHQAGDRQCPNPGCGNQNFAWRTESNKCKAPKPEGFLPPPFPPPGGDHGRGGPGGMWGG
RGGLMDHGGPGGMFRGGCGRDRSGFCGGWAWTEVALVEEDKVALGGPRTFDVTNGRKKRRT

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TTTCCGGTGCTATGCCCCGGAAGCGGAAGTGCGATCTTCGGGCTGTCAGAGTTGGTCTGTTACTCGGTGGTGGCG GAGTCTACGGAAGCCGTTTTCGCTTCACTTTTCCTGGCTGTAGAGCGCTTTCCCCCTGGCGGGTGAGAGTGCAGA GACGAAGGTGCGAGATGAGCACTATGTTCGCGGACACTCTCCTCATCGTTTTTATCTCTGTGTGCACGGCTCTGC AGAGTAAAAAATTGGAAAAGAAGAAGGAAACAATAACAGAGTCAGCTGGTCGTCTATCAATGGTTCGAATGAAAT CCATGTTTGCTATTGGCTTTTGTTTTACTGCCCTAATGGGAATGTTCAATTCCATATTTGATGGTAGAGTGGTGG CAAAGCTTCCTTTTACCCCTCTTTCTTACATCCAAGGACTGTCTCATCGAAATCTGCTGGGAGATGACACCACAG ACTGTTCCTTCATTTTCCTGTATATTCTCTGTACTATGTCGATTCGACAGAACATTCAGAAGATTCTCGGCCTTG CCCCTTCACGAGCCGCCACCAAGCAGGCAGGTGGATTTCTTGGCCCACCACCTCCTTCTGGGAAGTTCTCTTGAA ${\tt CCATAGGTAGCCTTACTACTTGGGCCTCTTTCTAGTTTTGAATTATTTCTAAGCCTTTTGGGTATGATTAGAGTG}$ AGTTCAGGTAATGTTATGTAATGAAAAACAAATAGCATCCTTCTTGTTTCATTTACATAAGTATTTTCTGTGGG ACCGACTCTCAAGGCACTGTGTATGCCCTGCAAGTTGGCTGTCTATGAGCATTTAGAGATTTAGAAGAAAAATTT ACAAGCCAAATACATGACATAAGATCAATAAAGAGGCCAAATTTTTAGCTGTTTTATGTACAAGGAGAGATCTGT **GTACTG**

MSTMFADTLLIVFISVCTALLAEGITWVLVYRTDKYKRLKAEVEKQSKKLEKKKETITESAGRQQKKKIERQEEK LKNNNRDLSMVRMKSMFAIGFCFTALMGMFNSIFDGRVVAKLPFTPLSYIQGLSHRNLLGDDTTDCSFIFLYILC TMSIRQNIQKILGLAPSRAATKQAGGFLGPPPPSGKFS WO 2004/030615 PCT/US2003/028547

533/6881 FIGURE 497

AGACAGTTTTGAAGTTTTCAAAGACTGGCTCTGCTGTTAAGAAGTTGTACTTAAAGCGGAGGAGCTAAGCCACCT GCCAAAATGTGCAAAGGACTTGCAGCTTTGCCCCACTCATGCCTGGAAAGGGCCCAAGGAGATTAAGATCAAGTTG GGAATTCTCCTCCAGAAGCCAGACTCAGTTGGTGACCTTGTCATTCCGTACAATGAGAAGCCAGAGAAACCAGCC AAGACCCAGAAAACCTCGCTGGACGAGGCCCTGCAGTGGCGTGATTCCCTGGACAAACTCCTGCAGAACAACTAT GGACTTGCCAGTTTCAAAAGTTTCCTGAAGTCTGAATTCAGTGAGGAAAACCTTGAGTTCTGGATTGCCTGTGAG GAGGCTCCTAAAGAGGTGAATATTGACCACTTCACTAAGGACATCACAATGAAGAACCTGGTGGAACCTTCCCTG AGCAGCTTTGACATGGCCCAGAAAAGAATCCATGCCCTGATGGAAAAGGATTCTCTGCCTCGCTTTGTGCGCTCT GAGTTTTATCAGGAGTTAATCAAGTAGTAATTTAGCCAGGCTATGAAATCATCCTGTGAGTTATTTCCTCCATAA TAACCCTGCATTTCCCATTAATCTACATATCTTCCCACAGCAGCTTTGCTCAGTGATACCCACATGGGAAAAATC CCAGGGGATGTTGCTTACTCTTTTTGCCCACACTGCTTTGGATACTTATCTACTGTCCGAAGGCCTTCTTTCCCC ACTCAATTCTTCCTGCCCTGTTATTAATTAAGATATCTTCAGCTTGTAGTCAGACCCAATCAGAATCACAGAAAA TAAATTGGTCTAAAAAAGAATATTAAGTGTGGACAGACCTATTTCAAAGGAGCTTAATTGATCTCACTTGTTTTA GTTCTGATCCAGGGAGATCACCCCTCTAATTATTCTGAACTTGGTTAATAAAAGTTTATAAGATTTTTATGAAG CAGCCACTGTATGATATTTTAAGCAAATATGTTATTTAAAATATTGATCCTTCCCTTGGACCACCTTCATGTTAG AGATTTCTCTTTTATACCTTCCTCACTGGCCCCCTCCACCTGCCCATAGTCACCAAATTCTGTTTTAAATCAATG ACCTAAGATCAACAATGAAGTATTTTATAAATGTATTTATGCTGCTAGACTGTGGGTCAAATGTTTCCATTTTCA AATTATTTAGAATTCTTATGAGTTTAAAATTTGTAAATTTCTAAATCCAATCATGTAAAATGAAACTGTTGCTCC ATTGGAGTAGTCTCCCACCTAAATATCAAGATGGCTATATGCTAAAAAGAGAAAATATGGTCAAGTCTAAAATGG CTAATTGTCCTATGATGCTATTATCATAGACTAATGACATTTATCTTCAAAACACCAAATTGTCTTTAGAAAAAT AAAGTGCAGATTTATACTCCTGACGTGTCTCATTCACAGCTAAATAATAGGCCATAGGACTTTTGGTAGGTTTAA ACTTTTAATTCTGTATTTCATGATTATAAGTCTTGCTAGAATTTTTTCTAATCTTTAGTAGATTTGATTAAATAA TGATTCACAGAATTTAGTAACAGAATCAAACTAAGCCATGTATGAGGGTAATCGAGATGAGGATATTAACTCAAA AGAAATAGGGTGATTTTTAAAGGATTAATAAAATTCTGAAATGTTAAGTAG

 $\label{thm:mckglaalphsclerakeikiklgillqkpdsvgdlvipynekpekpaktqktsldealqwrdsldkllqnnyglasfksflksefseenlefwiacedykkikspakmaekakqiyeefiqteapkevnidhftkditmknlvepslssfdmaqkrihalmekdslprfvrsefyqelik$

 ${\tt GACACCTTTTAAAATGCAGAACTAACTGAGGCATTTCAGTAACTTTGCTTTCAAATCAATAAAGTCAA} \underline{{\tt ATG}}{\tt TATG}{\tt TATG}$ GAAACATTTTGTGCCCTACTCCCATACCCTGTGTACTCAAATTCTCTACTGTATGAATTATGCTTTAAGTAGAA TTTGGTTGATGTGTGCTCTGTACACAAGCCATTTCAATAGGATGGAGCTGTTAATTATTTTCCAAAGAGTAATAG ${\tt ACATGCAAAAGTTTCAA} \underline{{\tt TAA}} {\tt AAACTGGGCCATTAACAAATAAATTAATAAACTAATAAGCATTCCCTTCTAGGTT$ TTTGCCAAACTGCCTATCCAATAACAAATTTGAGAATCGTTGAAAAAGCTAGTTATATTTCAGAGAAATGATTTT CATTATTGAAACTGTTCTCCCTAGCAGGCCATTTTCCCTTTTTCCTGGGAGTTTAGCAAGTTTAGGAGAAATAG TCATGAAAAGAAAGGGAAGAAGGGGAAAGGGAAGAGGTTAAAAAGTAAGTGCTCAGACCTATGAACGTAATCC CTTTGCTAGAAATATTTAAGAGCAGCTCAGCTTGGTTGAAACTGAGTTTTGTCATCTTCCATATTTGCAGGAAGG TATTTTCTGACTTGCAATGCAGCTAGATGTAAAATTTTATTTTATCATCCTAGAAAGCCTTGACTAGAAAAATGA ATAAATATTGAGGGTTTCCTGTCCATATCTGGCTTGCATGTGCCAGAAAGCAGAGAATAGAAAATGTAATCTCCA ACATCCAAGCATCGAAACCCAAGGGGTAGGCAATTCTATGTAGGTTTTGGACATGAAGTTTGGTGCATCTTGGTT TATGCTGGCTCAACTGCTATTAAACCTCTCTGGCTTATAGTCTCTTCATTCTATTAGACAAGCACGTATCGAACA CITGCTTCGCACAAGGCTCTTTAGTTAACAATTTAGCAGCTACTGTTTGTGTTAAACACACTTTTCACCAAATAG GTTCTGAGGCAAACGAGAGCAATGACTATTTAAAGAAAGGCTTTCCCAGCATCACTTACACATCCCAAAACTAAA AAGATCAACTCTTCCAACTGAGAAAAGACTCCTGGCTTTGAATGGAAACTTACAGCAGAGAGTCACAGGCCACGG CAACAACAACGACAACAACAACATTTGGAATATTATTCTCAACTCACGTTTTAATAATACATCTTAATTATTTT TCTAGTAGAGAAACTACAAATCAGCCTCTTCAACATTTATATACAGTTTAATAAGCCTCTTGCAAGTTACTTGTT AAAATGCACAGGCTAAGGCATAGACAAAACAAAGAGAAATGCTGAGAAATTTGCCACTGGAGACAAGCAATCTGA ACTAGCAACTCATCTTCGGAAGACACAGCCAGGAGAATGAAGTAGAAGTGAAAGGTTTATAAATCCATTTGTAAG CATTTATCCCATATATTTTAAATTCAAGAAAAATTGTGTTTATCTTTAGAATTTTGTATTCAATACTTTATGTAC TATGTGACTCATGCTTCTGGATAAATAAAGCACCAAATATGTATCTGTAACCACAATCACACATATTATATAAA ТАТАТАТСТАТАТААСААААААААААААААААА

 ${\tt MYGNILCPTLHTLCTQILYCMNYALSRIQCQGELGEINYFNFFFILYKAMDFIWLMCALYTSHFNRMELLIIFQR} \\ {\tt VIDMQKFQ}$

١,

AGCGGCCCTGCAGAGGCAGGTCCACCTGAGAGGCCGGCCTGCCAGCCCACTGTCATCCGGGGCATCACCT ACTATAAAGCCAAGGTCTCTGAAGAAGAGAATGACATTGAAGAGCAGCAAGATGAGTTTTTCAGCGGTGACAATG GAGTGGATTGCTGATTGAAGATCAGCTCCTGAGACACACGGCCTGATGACCAGTGTCACCCGGAGGCCTGCAG CACAGCCCTCGACCTCAGATCCCAGCATCGCCAACCATGCCTCAGTGGGACCAACACTCCAAACAACCTCGGTGT CTCCAGATCCCACAAGGGAGTCAGTCCTGCAGCCTTCTCCTCAGGTACCAGCCACCACTGTGGCCCACACAGCCA CCCAGCAACCAGCAGCCCCAGCTCCTCCGGCAGTGTCTCCCAGGGAGGCATTGATGGAAGCTATGCACACAGTCC GCCCCACGCTGAGCCCCGAAGAAGAAGATGACATCCGGAATGTCATAGGAAGGTGCAAGGACACTCTCTCCACAA TCACGGGGCCGACCACCCAGAACACATATGGGCGGAATGAAGGGCCCTGGATGAAGGACCCCCTGGCCAAGGATG AGCGGATTTACGTAACCAACTATTACTACGGCAACACCCTGGTAGAGTTCCGGAACCTGGAGAACTTCAAACAAG GTCGCTGGAGCAATTCCTACAAGCTCCCGTACAGCTGGATCGGCACAGGCCACGTGGTATACAATGGCGCCTTCT ACTACAATCGCGCCTTCACCCGCAACATCATCAAGTACGACCTGAAGCAGCGCTACGTGGCTGCCTGGGCCATGC TGCATGACGTGGCCTACGAGGAGGCCACCCCCTGGCGATGGCAGGGCCACTCAGACGTGGACTTTGCTGTGGACG AGAATGGCCTATGGCTCATCTACCCGGCCCTGGACGATGAGGGCTTCAGCCAGGAGGTCATTGTCCTGAGCAAGC TCAATGCCGCGGACCTGAGCACAGAAGGAGACCACATGGCGCACGGGGCTCCGGAGGAATTTCTACGGCAACT GCTTCGTCATCTGTGGGGTGCTGTATGCCGTGGATAGCTACAACCAGCGGAATGCCAACATCTCCTACGCTTTCG ACACCCACACACACACAGATCGTCCCCAGGCTGCTGTTCGAGAATGAGTATTCCTATACGACCCAGATAGACT ACAACCCCAAGGACCGCCTGCTCTATGCCTGGGACAATGGCCACCAGGTCACTTACCATGTCATCTTTGCCTACT TCTATTTTTTATATGGATTGTAGATCAATCCATACGTGTATGTGCTGGTCTCATCCTCCCCAGTTTATATTTTT ATCTCGACCATTGAAAAGGTTTCTTCATCTGGGTCTTGCAGGAGGCAGCACACCAGGAGCAGAAATGAAAGAG CTTTTTTTTTTAATAAAGAAGAAATTTAAAATC

MTSVTRRPAATRQGHSTAVTSDLNARTAPWSSALPQPSTSDPSIANHASVGPTLQTTSVSPDPTRESVLQPSPQV PATTVAHTATQQPAAPAPPAVSPREALMEAMHTVPVPPTTVRTDSLGKDAPAGWGTTPASPTLSPEEEDDIRNVI GRCKDTLSTITGPTTQNTYGRNEGAWMKDPLAKDERIYVTNYYYGNTLVEFRNLENFKQGRWSNSYKLPYSWIGT GHVVYNGAFYYNRAFTRNIIKYDLKQRYVAAWAMLHDVAYEEATPWRWQGHSDVDFAVDENGLWLIYPALDDEGF SQEVIVLSKLNAADLSTQKETTWRTGLRRNFYGNCFVICGVLYAVDSYNQRNANISYAFDTHTNTQIVPRLLFEN EYSYTTOIDYNPKDRLLYAWDNGHQVTYHVIFAY WO 2004/030615 PCT/US2003/028547

539/6881 FIGURE 503

GGCACGAGGGATGCAAGGAGATGAGACAGTTAGATTTACTTCCTCTTTTCTAATCTGAGAGGTTTCATGTTGAAG ${\tt AAAATCAGTGTTGGGGTTGCAGGAGACCTAAACACAGTCACC} \underline{{\tt ATG}} {\tt AGCTGGGCTGTGTCCTCATGGCCTGGGCCC}$ CTCTACCTTTCCCTTGGTGTGCTCTGGGTGGCCCAGATGCTACTGGCTGCCAGTTTTGAGACGCTGCAGTGTGAG GGACCTGTCTGCACTGAGGAGAGCAGCTGCCACACGGAGGATGACTTGACTGATGCAAGGGAAGCTGGCTTCCAG GTCAAGGCCTACACTTTCAGTGAACCCTTCCACCTGATTGTGTCCTATGACTGGCTGATCCTCCAAGGTCCAGCC AAGCCAGTTTTTGAAGGGGACCTGCTGGTTCTGCGCTGCCAGGCCTGGCAAGACTGGCCACTGACTCAGGTGACC TTCTACCGAGATGGCTCAGCTCTGGGTCCCCCGGGCCTAACAGGGAATTCTCCATCACCGTGGTACAAAAGGCA GACAGCGGGCACTACCACTGCAGTGGCATCTTCCAGAGCCCTGGTCCTGGGATCCCAGAAACAGCATCTGTTGTG GCTATCACAGTCCAAGAACTGTTTCCAGCGCCAATTCTCAGAGCTGTACCCTCAGCTGAACCCCAAGCAGGAAGC CCCATGACCCTGAGTTGTCAGACAAAGTTGCCCCTGCAGAGGTCAGCTGCCCGCCTCCTCTTCTCCTTCTACAAG GATGGAAGGATAGTGCAAAGCAGGGGGCTCTCCTCAGAATTCCAGATCCCCACAGCTTCAGAAGATCACTCCGGG TCATACTGGTGTGAGGCAGCCACTGAGGACAACCAAGTTTGGAAACAGAGCCCCCAGCTAGAGATCAGAGTGCAG GGTGCTTCCAGCTCTGCTGCACCTCCCACATTGAATCCAGCTCCTCAGAAATCAGCTGCTCCAGGAACTGCTCCT GAGGAGGCCCCTGGGCCTCTGCCTCCGCCGCCACCCCATCTTCTGAGGATCCAGGCTTTTCTTCTCTCTGGGG ATGCCAGATCCTCATCTGTATCACCAGATGGGCCTTCTTCTCAAACACATGCAGGATGTGAGAGTCCTCCTCGGT CACCTGCTCATGGAGTTGAGGGAATTATCTGGCCACCAGAAGCCTGGGACCACAAAGGCTACTGCTGAA**TAG**AAG TAAACAGTTCATCCATGATCTCACTTAACCACCCCAATAAATCTGATTCTTTATTTTCTCTTCCTGTCCTGCACA TATGCATAAGTACTTTTACAAGTTGTCCCAGTGTTTTGTTAGAATAATGTAGTTAGGTGAGTGTAAATAAATTTA TATAAAGTGAGAATTAGAGTTTAGCTATAATTGTGTATTCTCTCTTAACACAGAATTCTGCTGTCTAGATCA GGAATTTCTATCTGTTATATCGACCAGAATGTTGTGATTTAAAGAGAACTAATGGAAGTGGATTGAATACAGCAG GGGTTGGGGGATGGTGTGTGTGTGCTACTGGCATCCAGTAAATAGAAGCCAGGGGTGCCGCTAAACATCCTA TAATGCACAGGCAGTACCCCACAACGAAAAATAATCTGGCCCAAAATGTCAGTTGTACTGAGTTTGAGAAACCC CAGCCTAATGAAACCCTAGGTGTTGGGCTCTGGAATGGGACTTTGTCCCTTCTAATTATCTCTTTCCAGCCT CATTCAGCTATTCTTACTGACATACCAGTCTTTAGCTGGTGCTATGGTCTGTTCTTTAGTTCTAGTTTGTATCCC CTCAAAAGCCATTATGTTGAAATCCTAATCCCCAAGGTGATGGCATTAAGAAGTGGGCCTTTGGGAAGTGATTAG ATCAGGAGTGCAGAGCCCTCATGATTAGGATTAGTGCCCTTATTTAAAAAGGCCCCAGAGAGCTAACTCACCCTT CCACCATATGAGGACGTGGCAAGAAGATGACATGTATGAGAACCAAAAAAACAGCTGTCGCCAAACACCGACTCTG AAAAA

MKLGCVLMAWALYLSLGVLWVAQMLLAASFETLQCEGPVCTEESSCHTEDDLTDAREAGFQVKAYTFSEPFHLIV SYDWLILQGPAKPVFEGDLLVLRCQAWQDWPLTQVTFYRDGSALGPPGPNREFSITVVQKADSGHYHCSGIFQSP GPGIPETASVVAITVQELFPAPILRAVPSAEPQAGSPMTLSCQTKLPLQRSAARLLFSFYKDGRIVQSRGLSSEF QIPTASEDHSGSYWCEAATEDNQVWKQSPQLEIRVQGASSSAAPPTLNPAPQKSAAPGTAPEEAPGPLPPPPTPS SEDPGFSSPLGMPDPHLYHQMGLLLKHMQDVRVLLGHLLMELRELSGHQKPGTTKATAE

MWQLLLPTALLLLVSAGMRTEDLPKAVVFLEPQWYRVLEKDSVTLKCQGAYSPEDNSTQWFHNESLISSQASSYF IDAATVDDSGEYRCQTNLSTLSDPVQLEVHIGWLLLQAPRWVFKEEDPIHLRCHSWKNTALHKVTYLQNGKGRKY FHHNSDFYIPKATLKDSGSYFCRGLVGSKNVSSETVNITIIQGLAVSTISSFFPPGYQVSFCLVMVLLFAVDTGL YFSVKTNIRSSTRDWKDHKFKWRKDPQDK

WO 2004/030615 PCT/US2003/028547

543/6881 FIGURE 507

MADGTCQDVAIVGYKDSPSIWAAVPGKTFANIAPAEVGVLAGKDRSRWGILHGSSYTKSTGGAPTFNVTVTKTDK TLVLLMGKEGVHGGLINKKCYEMASHLRRSQY

ATGCTTGTAGGATTCACTGAGTTTGAATCCTTCCACCCAGGCCTTGCTGCTGCAGCCTCTGCCAGAGCCAGCTCC
TGGTGGACCCATGTGGAAATGGGACCTCCAGATCCCATCCTGGGAGTCACTGAAGCCTTTAAGAGGGACATCAAT
AGCAAAAAGATGAATCTGGGAGTTGGGATGATAATGGGAAGCCGCTTTGCCAGTGGTGATGGTGATAAGGATGCC
TGGGCTCTGCACCACTTCATCGAACAGGGCATTAATGTTTGTCTCTGCCAATCATATGCCAAGAACATGGGCTTA
TATGGTGAGCATGTAGGAGCCTTCACTGTGGTCTGCAAAAGATGCAGATGAAGCCAAAAAGGGTAGAGTCACAGTTG
AAGATCTTGATTAGTCCCATGTATTCCAACTCTCCCCTCAATGGGGCCCAGATTGCTTCTACCATTCCAAACACC
CCAGTTGGTTTGAAGGTCTGGGTCATGGGAGGCCTACATGATCATCCTCAGGTTATGAGTGACGAGAAAAGAGACA
ACACTGAGAGCAGTGGCTGTCAAGTACTGGATCAGAGTCCGGCTGTGCCACTTCCTTGAAACATTCATGTCTCCG
GACCTTACTGGCTGGAAAAAAACTGCAGCAGGAAGATGGCCTTACCTCACTTCTAGCTTCCAAGTCTACAAAGAGA
GCACAGGCAGAACCGAAGCCACATCCAGGACCTGGGCTGAGAACATCTGGCACATGGAGCCTGTAGG

MVVGFTEFESFHPGLAAAASARASSWWTHVEMGPPDPILGVTEAFKRDINSKKMNLGVGMIMGSRFASGDGDKDA WALHHFIEQGINVCLCQSYAKNMGLYGEHVGAFTVVCKDADEAKRVESQLKILISPMYSNSPLNGAQIASTIPNT PVGLKVWVMGGLHDHPQVMSDEKETTLRAVAVKYWIRVRLCHFLETFMSPDLTGWKKLQQEDGLTSLLASKSHKR AQAEPKPHPGPGLRTSGTWSL

 ${\tt CGGTTGCTTGCTGTCCCAGCGGCGCCCCTCATCACCGTCGCC}{{\tt ATG}{\tt CCCGGAGGTCTGCTTCTCGGGGACGTGGC}$ TCCCAACTTTGAGGCCAATACCACCGTCGGCCGCATCCGTTTCCACGACTTTCTGGGAGACTCATGGGGCATTCT CTTCTCCCACCCTCGGGACTTTACCCCAGTGTGCACCACAGAGCTTGGCAGAGCTGCAAAGCTGGCACCAGAATT TGCCAAGAGGAATGTTAAGTTGATTGCCCTTTCAATAGACAGTGTTGAGGACCATCTTGCCTGGAGCAAGGATAT CAATGCTTACAATTGTGAAGAGCCCACAGAAAAGTTACCTTTTCCCATCATCGATGATAGGAATCGGGAGCTTGC CATCCTGTTGGGCATGCTGGATCCAGCAGAGAAGGATGAAAAGGGCATGCCTGTGACAGCTCGTGTGTTTTGT TTTTGGTCCTGATAAGAAGCTGAAGCTGTCTATCCTCTACCCAGCTACCACTGGCAGGAACTTTGATGAGATTCT CAGGGTAGTCATCTCTCCAGCTGACAGCAGAAAAAAGGGTTGCCACCCCAGTTGATTGGAAGGATGGGGATAG TGTGATGGTCCTTCCAACCATCCCTGAAGAAGAAGCCAAAAAACTTTTCCCGAAAGGAGTCTTCACCAAAGAGCT $\tt CCCATCTGGCAAGAAATACCTCCGCTACACACCCCAGCCT{\underline{TAA}}{GTCTCTTGGAGAAGTTGGTGCTGTGAGCCAGA$ GGATGTCAGCTGCCAATTGTGTTTTCCTGCAGCAATTCCATAAACACATCCTGGTGTCATCACAGCCAAGGTTTT TAGGTTGCTATACCAATGGCTTATTAAATGAAAATGGCACTAAAAGTTTCTTGAGATTCTTTATACTCTCTGCCT TCAGCAATCAATTCCATTCATACATCAGCACTCTGCTGGTTCTGTTTGAAATATGTTCTGTATTTAAAACTCAAA ATCAGAGAATGACTATCAATTTTTTTTTTAACTGTCCTATCACGTCCTCTCCTGTCACCCATTTTGAAGAGTGGCA GAACTTGAAGTTCAACTTCCTCTGTAAATATCCAAGTATAAAGCCCAGGAACTTCTAGAATAACCCAGATGCGCT TTAATTTTTTTTAATATGTTTTGATCACAGAACTTCTAGAATAACCCAGATGCTCTTTCATATTCTTTTAATACA TCTTGATCACAGCTGGGGGAAAAAAAGCTTTTTAATTCTGTACCTTCCTAGTAGATAAGTGAAGAGCAGGGAAAG AGACCTTTAAATATTTTGCTATAAAAAATTTGTGATAAGTTTCTATCAAAATGGGGAGATTGCAGAAAAGGCTT CCCTTGGCTCCCAAGGAGGTGTAGCAGGTGTGAGCAATATTAGTGCCATGTGCCTTTCACACAGGGTTTGCATTT TTAGTATAGAACTCTTCTTGCAGTGGGTTGCTATTTTCTAGATTTTACTTTTTAGGGAACAAAATAAAATCCTTT GTT

MPGGLLLGDVAPNFEANTTVGRIRFHDFLGDSWGILFSHPRDFTPVCTTELGRAAKLAPEFAKRNVKLIALSIDS VEDHLAWSKDINAYNCEEPTEKLPFPIIDDRNRELAILLGMLDPAEKDEKGMPVTARVVFVFGPDKKLKLSILYP ATTGRNFDEILRVVISLQLTAEKRVATPVDWKDGDSVMVLPTIPEEEAKKLFPKGVFTKELPSGKKYLRYTPQP

AGAGACCGTCCGAGGTAATTGTCTGCCACGAGTGCACATTCTGAAAACAGGAGATTTTAGTTCCTAAAAATGGGA AGAACCTACATTGTAGAAGAGACTGTTGGCCAGTATCTTTCAAACATAAATCTCCAAGGAAAGGCTTTTGTCTCT GGCCTTTTAATAGGACAGTGTTCGTCACAAAAGGATTATGTGATTCTTGCCACTAGAACGCCACCCAAAGAGGAG CAAAGTGAGAACCTCAAACATCCCAAAGCTAAGTTGGATAACTTGGATGAAGAATGGGCCACAGAACATGCCTGC ${\tt CAGGTATCCAGA} \underline{{\tt ATG}} {\tt CTACCAGGGGGGACTTTTAGTTCTTGGAGTATTTATTACTACTTTAGAACTGGCAAAT$ GATTTTCAAAATGCCCTGCGTAGACTAATGTTTGCTGTGGAAAAGTCTATAAATAGAAAGAGATTGTGGAATTTC GATATCCATGATCCAAAGAGTTCAGCAAGACCAGCAGATTGGAAGTATCAAAGTGGATTATCATCCTCATGGCTT TCTTTAGAGTGTACAGTTCACATTAATATTCACATCCCACTTTCTGCTACTTCTGTCAGCTATACTCTGGAGAAA AATACAAAGAATGGACTTACACGCTGGGCCAAGGAAATAGAAAATGGTGTTTATTTGATTAATGGACAAGTTAAA GATGAAGATTGTGACCTATTAGAAGGACAGAAAAAATCTTCTAGAGGAAATACTCAAGCAACTAGTCATTCTTTT GATGTCAGAGTGCTAACGCAGTTGCTCCTGAATTCAGACCACAGATCCACAGCCACAGTCCAGATATGTAGCGGT TCTGTAAACCTTAAGGGTGCTGTGAAATGCAGAGCTTATATCCACAGCAGTAAACCCAAAGTTAAAGATGCTGTG CAGGCAGTAAAGAGGGATATATTGAACACAGTTGCTGATCGTTGTGAAATGCTATTTGAGGATCTGCTTTTGAAT GAAATTCCAGAAAAAAAAGATTCTGAAAAAGAGTTCCACGTCCTCCTTATCGAGTCTTTGTTCCCCTTCCTGGA TCCACTGTAATGTTGTGTGATTATAAATTTGACGATGAGTCAGCTGAAGAAATCAGGGACCATTTTATGGAGATG AATAGTCAAGCTTCATTGGACAACACAGATGATGAACAACCAAAACAACCAATTAAAACTACAATGTTATTGAAA ATTCAGCAAAACATAGGTGTGATTGCAGCATTTACAGTTGCAGTCCTTGCTGCGGGTATCTCCTTTCATTACTTC GTTAACAATCCATCTGTATTTAAAACACTAGCAGCCAGATCTGCTGCCATGATGCCTATTTGGTGTGTTTCTGAT TAAAATGAAATCACAAGCTGCCTTGTTTAGCCTGCTTTACATTGTAGGTGGCCCGCATTTCCAGAAATAACGTTA TGCATCTAGATGGAAGCTGCATGTAACAAATCATTATTATCTATTTTTAAAAGCTTCAAAATGATGGGATATGAT CATAGATTTTAGTCTTACTAATCTGAATCACATATTAATCAGGACATTAAAAACTTTAACAGAGGCATGATGGCT

MLPGGLLVLGVFIITTLELANDFQNALRRLMFAVEKSINRKRLWNFTEEEVSERVTLHICASTKKIFCRTYDIHD PKSSARPADWKYQSGLSSSWLSLECTVHINIHIPLSATSVSYTLEKNTKNGLTRWAKEIENGVYLINGQVKDEDC DLLEGQKKSSRGNTQATSHSFDVRVLTQLLLNSDHRSTATVQICSGSVNLKGAVKCRAYIHSSKPKVKDAVQAVK RDILNTVADRCEMLFEDLLLNEIPEKKDSEKEFHVLPYRVFVPLPGSTVMLCDYKFDDESAEEIRDHFMEMLDHT IQIEDLEIAEETNTACMSSSMNSQASLDNTDDEQPKQPIKTTMLLKIQQNIGVIAAFTVAVLAAGISFHYFSD

WO 2004/030615 PCT/US2003/028547

551/6881 FIGURE 515A

CGAGACGGAAGCGGGCTGGGAGGCGTCGGCGGCGCGCACGTGGTGACGTGCGAGGGGGTGCGGCGCGAGCG CCGCCTGCTGCTTCGGCGCGCTGTATCGGCGAGCGAGCTCCCGCGAGTTCTCGGTGGCGCTCCCCCTTCC TTTCAGTCTCCACGGACTGGCCCCTCGTCCTTCTACTTGACCGCTCCCGTCTTCCGCCGCCTTCTGGCGCTTTCC ATGAACCAGATTATGATGCATCATTATCACAGAAGAAATTCGTGTCTATAGCTTTTAAGGACTTGATTACATCAT TTTCAAGCCTGATAGTTTTGGAATCACCATTAGAGCTTAAGACACCTGCCTTCATTTCAACCACCTGTCTTCA TACCCTGACGAAGTGCACCTTTTAACACTCCTTTGTCCTTGGATTACTTAAGAGTTCCCAGAAATACATTTGCCA CCAACAGAGTAGCCAAATTTATAAGGAAAAATGATTCCCAATGGATATTTGATGTTTGAGGATGAAAATTTTATT GAGTCTTCTGTTGCCAAATTAAATGCCCTGAGGAAAAGTGGCCAGTTCTGTGATGTTCGACTTCAGGTCTGTGGC GATCCTCATGGAATTTCTCACGTTAAATTTGATGATCTCAATCCAGAAGCTGTTGAAGTCTTGTTGAATTATGCC TACACTGCTCAGTTGAAAGCAGATAAGGAATTGGTAAAAGATGTTTATTCTGCAGCAAAAAAGCTGAAGATGGAT CGAGTAAAGCAGGTTTGTGGTGATTATTTACTGTCTAGAATGGATGTTACCAGCTGCATCTCTTACCGAAATTTT GCAAGTTGTATGGGAGACTCCCGTTTGTTGAATAAGGTTGATGCTTATATTCAGGAGCATTTGTTACAAATTTCT GAAGAGGAGGAGTTTCTTAAGCTTCCAAGGCTAAAGTTGGAGGTAATGCTTGAAGATAATGTTTGCCTTGCCCAGC AATGGCAAATTATATACAAAGGTAATCAACTGGGTGCAGCGTAGCATCTGGGAGAATGGAGACAGTCTGGAAGAG CTGATGGAAGAGGTTCAAACCTTGTACTACTCAGCTGATCACAAGCTGCTTGATGGGAACCTACTAGATGGACAG GCTGAGGTGTTTGGCAGTGATGATGACCACATTCAGTTTGTGCAGAAAAAGCCACCACGTGAGAATGGCCATAAG CAGATAAGTAGCAGTTCAACTGGATGTCTCTCTCTCCAAATGCTACAGTACAAAGCCCTAAGCATGAGTGGAAA ATCGTTGCTTCAGAAAAGACTTCAAATAACACTTACTTGTGCCTGGCTGTGCTGGATGGTATATTCTGTGTCATT ATGCAACAAGATGAGCTAATCGAAAAGCCCATGTCTCCTATGCAGTACGCACGATCTGGTCTGGGAACAGCAGAG ATGAATGGCAAACTCATAGCTGCAGGTGGCTATAACAGAGAGGAATGTCTTCGAACAGTCGAATGCTATAATCCA CATACAGATCACTGGTCCTTTCTTGCTCCCATGAGAACACCAAGAGCCCGATTTCAAATGGCTGTACTCATGGGC CAGCTCTATGTGGTAGGTGGATCAAATGGCCACTCAGATGACCTGAGTTGTGGAGAGATGTATGATTCAAACATA GATGACTGGATTCCTGTTCCAGAATTGAGAACTAACCGTTGTAATGCAGGAGTGTGTGCTCTGAATGGAAAGTTA TACATCGTTGGTGGCTCTGATCCATATGGTCAAAAAGGACTGAAAAATTGTGATGTATTTGATCCTGTAACAAAG TTGTGGACAAGCTGTGCCCCTCTTAACATTCGGAGACACCAGTCTGCAGTCTGTGAGCTTGGTGGTTATTTGTAC ATAATCGGAGGTGCAGAATCTTGGAATTGTCTGAACACAGTAGAACGATACAATCCTGAAAATAATACCTGGACT TTAATTGCACCCATGAATGTGGCTAGGCGAGGAGCTGGAGTGGCTGTTCTTAATGGAAAACTGTTTGTATGTGGT AATATGACTTCACCAAGGAGCAATGCTGGGATTGCAACTGTAGGGAACACCATTTATGCAGTGGGAGGATTCGAT CAGTTT<u>TAACAAATTTAAGACCCTCTCAAACTAACAGGCTTAGTGATGTAATTATGGTTAGTAGAGGTACACTTG</u> TGAATAAAGAGGGTGGGTATAGATGTTGCTAACAGCAACACAAAGCTTTTGCATATTGCATACTATTAAAC ATGCTGTACATACTTTTTGGGTTTATTTGGAAAGGAATGCAAAGATGAAGGTCTGTTTTTGTGTACTTTTAAGACT CCACATTTGTTTTGCCAATTTGCACATTAAATGACTCTTCCCTCAAATGTGTACTATGGGGTAAAAGGGGTAGGG TTTAAAGATGTAGACAGTTGGGTTTTTTAAGGGCCCTTTTTCAATAACTGGAACACTCTATAACAAAGGATACTT ATTTAAATAGATGACATTGACTATTTTTTTTTTTAAAAAGGAAGCTTACATGCCTACCAATATTTAATCTTTT ATGATTGCCTTTTATAACTTTTTATATTCTCAGCAGAGTGCTTTACCAATTGAAGTAAAATGTGGCAGGCTGGA GTAACATAGCTGTGATTTTTGGTATTTGAAACACTGGTTTTAAATATTTTGACTTGTTGAGGGTATGTTTATAT AGCAAGACATTATATAGCAGTAAAAAATGGTGTTTTATCTTCTATATAATTCCTGTTTTTATTATTAACAAAACA GTCCTAAATAGCAGCCCTCAATTGTGAAAAAATTTACTTTAAACTACATTAGGTTGTGAATGCAGGTTTTATCAG

552/6881 FIGURE 515B

MIPNGYLMFEDENFIESSVAKLNALRKSGQFCDVRLQVCGHEMLAHRAVLACCSPYLFEIFNSDSDPHGISHVKF
DDLNPEAVEVLLNYAYTAQLKADKELVKDVYSAAKKLKMDRVKQVCGDYELSRMDVTSCISYRNFASCMGDSRLL
NKVDAYIQEHLLQISEEEEFLKLPRLKLEVMLEDNVCLPSNGKLYTKVINWVQRSIWENGDSLEELMEEVQTLYY
SADHKLLDGNLLDGQAEVFGSDDDHIQFVQKKPPRENGHKQISSSSTGCLSSPNATVQSPKHEWKIVASEKTSNN
TYLCLAVLDGIFCVIFLHGRNSPQSSPTSTPKLSKSLSFEMQQDELIEKPMSPMQYARSGLGTAEMNGKLIAAGG
YNREECLRTVECYNPHTDHWSFLAPMRTPRARFQMAVLMGQLYVVGGSNGHSDDLSCGEMYDSNIDDWIPVPELR
TNRCNAGVCALNGKLYIVGGSDPYGQKGLKNCDVFDPVTKLWTSCAPLNIRRHQSAVCELGGYLYIIGGAESWNC
LNTVERYNPENNTWTLIAPMNVARRGAGVAVLNGKLFVCGGFDGSHAISCVEMYDPTRNEWKMMGNMTSPRSNAG
IATVGNTIYAVGGFDGNEFLNTVEVYNLESNEWSPYTKIFQF

GAATATGACGAGAACAAGTTCGTGGACGAAGAAGATGGGGGGCGACGGCCAGGCCGGGCCGACGAGGGCGAGGTG GACTCCTGCCTGCGGCAAGGAAACATGACAGCTGCCCTACAGGCAGCTCTGAAGAACCCCCCTATCAACACCAAG AGTCAGGCAGTGAAGGACCGGGCAGCCATTGTCTTGAAGGTGCTCATCTCTTTTAAAGCTAATGATATAGAA AAGGCAGTTCAATCTCTGGACAAGAATGGTGTGGATCTCCTAATGAAGTATATTTATAAAGGATTTGAGAGCCCG TCTGACAATAGCAGTGCTATGTTACTGCAATGGCATGAAAAGGCACTTGCTGCTGGAGGAGTAGGGTCCATTGTT ${\tt CGTGTCTTGACTGCAAGAAAAACTGTG}$ ${\tt CTGGCAGGAAGTGGATTATCTGCCTCGGGAGTGGGAATTGCTGG}$ TACAAAGACCAAAACAACCAAATGCCACCGCTGCCCTGTGGGTAGCATCTGTTTCTCTCAGCTTTGCCTTCTTGC TTTTTCATATCTGTAAAGAAAAAATTACATATCAGTTGTCCTTTAATGAAAATTGGGATAATATAGAAGAAATT GTGTTAAAATAGAAGTGTTTCATCCTTTCAAAACCATTTCAGTGATGTTTATACCAATCTGTATATAGTATAATT TACATTCAAGTTTAATTGTGCAACTTTTAACCCCTGTTGGCTGGTTTTTTGTTCTGTTTTGTTTTGTATTATTTT TAACTAATACTGAGAGATTTGGTCAGAATTTGAGGCCAGTTTCCTAGCTCATTGCTAGTCAGGAAATGATATTTA TAAAAAATATGAGAGACTGGCAGCTATTAACATTGCAAAACTGGACCATATTTCCCTTATTTAATAAGCAAAATA GGGTTCAGAGCAAGAAGTCTTGCTTTATACAAATGTATCCATAAAATATCAGAGCTTGTTGGGCATGAACATCAA AGACATTATGAGGTATACAACTAGTATTTAAGATACCATTTAATATGCCCCGTAAATGTCTTCAGTGTTCTTCAG AAAAAAGAAACTGCCACACAGCAAAAAATTGTTTACTTTGTTGGACAAACCAAATCAGTTCTCAAAAAAATGACCG TAGTATTTACATTGGATGCCAGTTTTGTAATCACTGACTTATGTGCAAACTGGTGCAGAAATTCTATAAACTCTT TGCTGTTTTTGATACCTGCTTTTTGTTTCATTTTGTTTTGTTTTGTAAAAATGATAAAACTTCAGAAAATAAAAT GTCAGTGTTGAATAAAAAAAAAAAAAAAAAAAAAA

MSKNTVSSARFRKVDVDEYDENKFVDEEDGGDGQAGPDEGEVDSCLRQGNMTAALQAALKNPPINTKSQAVKDRA GSIVLKVLISFKANDIEKAVQSLDKNGVDLLMKYIYKGFESPSDNSSAMLLQWHEKALAAGGVGSIVRVLTARKT V WO 2004/030615 PCT/US2003/028547

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GCCAGGCAGAGTCCTACTATAGGCATGCAGCTCAGCTTGTCCCCTCCAATGAAGCATTGCTGTGAAGTTCCCTTT CCCAGCTGCCTCCACTAATCTGCAAAAAGCACTTTCTAAAGCACTGGAAAGCCGAGATGAGGTGAAAACCAAGTG GGGTGTTTCTGACTTCATCAAGGCCTTTATTAAATTCCACGGTCATGTGTACCTGAGTAAGAGCTTGGAAAAGTT GAGCCCTCTTCGAGAGAAATTGGAAGAACAGTTTAAGAGGCTGCTATTCCAAAAAGCTTTCAACTCTCAGCAGTT AGTTCATGTCACTGTCATTAACCTGTTTCAACTTCATCACCTTCGTGACTTTAGCAATGAAACCGAGCAGCACAC GTGTCCTCTACAGAATGAGTCTCAGGAGGAGTCCTACAATGCCTATCCTCTTCCAGCAGTCAAGGTCTCCATGGA $\verb|CTGGCTAAGACTCAGACCCAGGGTCTTTCAGGAGGCAGTGGTGGATGAAAGACAGTACATTTGGCCCTGGTTGAT|\\$ TTCTCTTCTGAATAGTTTCCATCCCCATGAAGAGGACCTCTCAAGTATTAGTGCGACACCACTTCCAGAGGAGTT TGAATTACAAGGATTTTTGGCATTGAGACCTTCTTTCAGGAACTTGGATTTTTCCAAAGGTCACCAGGGTATTAC AGGGGACAAGGAGGCCAGCAACGACGAATACGACAGCAACGCTTGATCTCTATAGGCAAATGGATTGCTGATAA TCAGCCAAGGCTGATTCAGTGTGAAAATGAGGTAGGGAAATTGTTGTTTATCACAGAAATCCCAGAATTAATACT GAGCCCAGGGCTAAAATCAGTGCTATCTACAAGCCGAAATTTAAGCAACAACTGTGACACAGGAGAGAAGCCAGT GGTTACCTTCAAAGAAACATTAAGACACGAGAAGTGAACAGAGACCAAGGAAGAAGTTTTCCTCCCAAAGAGGT GAGAAGGGACTATAGCAAAGGAATAACTGTAACTAAGAATGATGGAAAGGAAGCAACAACAAGAGGAAAAACTGA AACCAAGAATGCACCTTAGAAAAGTTACAGGAAACAGGAAAGCAGAATGTGGCAGTGCAGGTAAAATCCCAGAC ${\tt CCAGTTCATCCCCATTCATCACCCTGGAGCCTTCCCTCTTTCCCAGCAGGCCAGGGTTTCCGCCCCCAACATA}$ TGTTATCCCCCCGCCTGTGGCATTTTCTATGGGCTCAGGTTACACCTTCCCAGCTGGTGTTTCTGTCCCAGGAAC CTTTCTTCAGCCTACAGCTCCACTCTCCAGCAGGAAACCAGGTGCAAGCTGGGAAACAGTCCCACATTCCTTACAG TACATCTTTACCAGCTCAGCCAACAGCACAGTCTACAAGCCAGCTGCAGGTTCAAGCTCTAACTCAGCAACAACA ATCCCCTACAAAAGCTGTGCCGGCTTTGGGGAAAAGCCCGCCTCACCACTCTGGATTCCAGCAGTATCAACAGGC AGATGCCTCCAAACAGCTGTGGAATCCCCTCAGGTTCAAGGCCCATTAGGGAAAATTATGCCTGTGAAACAGCC CTACTACCTTCAGACCCAAGACCCCATAAAACTGTTTGAGCCGTCATTGCAACCTCCTGTAATGCAGCAGCAGCA TCTAGAAAAAAATGAAGCCTTTTCCCATGGAGCCATATAACCATAATCCCTCAGAAGTCAAGGTCCCAGAATT CAAACGGTCACCAGGAATCTTCCGTCCAGAGCAGGATCCTGTACCCAGAATGCCGTTTGAGAAATCCTTATTGGA CCCAAATAATAGTATGTTCAATGAGGTATATGGGAAAAACCTGACATCCAGCTCCAAAGCAGAACTCAGTCCCTC AATGGCCCCCAGGAAACATCTCTGTATTCCCTTTTTGAAGGGACTCCGTGGTCTCCATCACTTCCTGCCAGTTC AGATCATTCAACACCAGCCAGCCAGTCTCCTCATTCCTCTAACCCAAGCAGCCTACCCAGCTCTCCTCCAACACA CAACCATAATTCTGTTCCATTCTCCAATTTTGGACCCATTGGGACTCCAGATAACAGGGATAGAAGGACTGCAGA TCGGTGGAAAACTGATAAGCCAGCCATGGGTGGGTTTGGCATTGATTATCTCTCAGCAACGTCATCCTCTGAGAG CCTCATGGAAAGCCTAAAGTCTATCTGGTCCAGTTCCATGATGCATCCTGGACCTTCTGCTCTGGAGCAGCTGTT AATGCAGCAGAAGCAGAAACAGCAACGGGGACAAGGCACCATGAACCCTCCACACTGAGGCCAAAGTGGCAACCT GGGAATGAAGGCTCCATAAACCATGGCATGTTGGGTTTGCAGGACTGGCCCACACAGTCCCCTGCAGGTGGCAGC CCTCTTTCCTGTTTCTCGCTGTCAAGAGGGTGTAAGTATTCCACCAGCCCGCTGAGTGTGCACGAAATGTTCGCA CTGTTTATCTCACTCAGTTACTTGGTATCACCGCCTCTCACCTTCTCCATCGTGCATGTCCCCAGCCACATGGGA TANAATAGGAATCCATTAATGATTGCTTTGCTGACTGAGAATGTAGTTGAAATTAAACATCTTTTATTATTATTA CTCTCAGTAGTAAAATATCACACTGAATTCTTCCATACACAGGTGTGCTTCTAGTCAGTGTGTAGCAAGGAAAGC ${\tt CCCGTTCACTGCTCCTGTGAGAGGTTGGTGACAGGATGGGGAACCGACCTCTTCAGCCAGTGGAAATGTTCC}$ ATAAGGGAGAGTTCAAGGCCTGTCAGAAGGCTCTGGTAGGCCTTCCTCTGGCCAGGAGACTCCAGCAGGGAATGC

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GGTTTTTGTGCCCCCATTCTACTTCCCACCCTCCTGCCCCATCTCCATCCCTTCTTTTACCCAATGCTGTATGCT GGCCCAAAAGACAGTCTGAAGAGGAAGGAAGCAGCAGTATCTGCGTAGCCCACAGAGGGCCCCAGGCCCCTGCCCA GCTGCAGTCTCCCAGCCTCCACTTTCAGAGTGAAATTCAAGGCAGCACGGACATGTGCCCCATCAGGCACAGAAGA AAGAGGACTGAAAATGTTCTTGTGTAGAAACAGAAGGACAGCATTTCTGTTAGTCATTTCCTGGAAAAGTAATAT TTTAAGGGGAAATTATGGAAACAATCTAATTGTTCAATTGCTGTGCTAGTGGTAGGGTTTATTTTCTGGGAGGTC CGAGTGTATGGAGTTAGTGTGGAACTTAAGAGCTGGAAGACAGCTGTAGAGCAAAGCACATCCAGGAGCCCCAGT AAGGTCTGAAAAGGTGAAGCCCCCTACCCAATGGCAATATGAAACCTTTTGTGCTTCTTCAGCCCCTTCCCTG TGTCCACCTTTCTCCCCAAGCCTTTTTCCTACTACCTTTACCCAGTTTGTGTGTTTGAGCTCTGCATT CAGGCAGCTGCAACATTCCAGTGTTTGAACTGTCACTGATTCTTGCGCCCTAGACAAGCTAACCAGGTTTACCAT CTCACTCCCAGTAATACCCAGCTCCTATCTAAAGCCCCATTCTGCATGAGAATTTGGTGTTTGGAATGTTTTCTG ACTCTTGGGGCGGGATTCCTCGCCTTATCATCCTCACTGTGGAGTAATGAGGGGGAGGAGAATCTTTATCAGAAA

MSFLGILCKCPLQNESQEESYNAYPLPAVKVSMDWLRLRPRVFQEAVVDERQYIWPWLISLLNSFHPHEEDLSSI SATPLPEEFELQGFLALRPSFRNLDFSKGHQGITGDKEGQQRRIRQQRLISIGKWIADNQPRLIQCENEVGKLLF ITEIPELILEDPSEAKENLILQETSVIESLAADGSPGLKSVLSTSRNLSNNCDTGEKPVVTFKENIKTREVNRDQ GRSFPPKEVRRDYSKGITVTKNDGKKDNNKRKTETKKCTLEKLQETGKQNVAVQVKSQTELRKTPVSEARKTPVT QTPTQASNSQFIPIHHPGAFPPLPSRPGFPPPTYVIPPPVAFSMGSGYTFPAGVSVPGTFLQPTAHSPAGNQVQA GKQSHIPYSQQRPSGPGPMNQGPQQSQPPSQQPLTSLPAQPTAQSTSQLQVQALTQQQQSPTKAVPALGKSPPHH SGFQQYQQADASKQLWNPPQVQGPLGKIMPVKQPYYLQTQDPIKLFEPSLQPPVMQQQPLEKKMKPFPMEPYNHN PSEVKVPEFYWDSSYSMADNRSVMAQQANIDRRGKRSPGIFRPEQDPVPRMPFEKSLLEKPSELMSHSSSFLSLT GFSLNQERYPNNSMFNEVYGKNLTSSSKAELSPSMAPQETSLYSLFEGTPWSPSLPASSDHSTPASQSPHSSNPS SLPSSPPTHNHNSVPFSNFGPIGTPDNRDRRTADRWKTDKPAMGGFGIDYLSATSSSESSWHQASTPSGTWTGHG PSMEDSSAVLMESLKSIWSSSMMHPGPSALEQLLMQQKQKQQRGQGTMNPPH

559/6881 FIGURE 521A

ACCACCTGATCAAGGAAAAGGAAGGCACAGCGGAGCGCAGAGTGAGAACCACCAACCGAGGCGCCGGGCAGCGAC CTCGCTCCTGCCCGCAGCCCGGGCCACCTCCAGGAGGGAAGTCTGTGATTGCAATGGGAAGTCCAGGCAGTG TATCTTTGATCGGGAACTTCACAGACAAACTGGTAATGGATTCCGCTGCCTCAACTGCAATGACACACTGATGG CATTCACTGCGAGAAGTGCAAGAATGGCTTTTACCGGCACAGAGAAAGGGACCGCTGTTTGCCCTGCAATTGTAA ATGCGACCGATGTCTGCCAGGCTTCCACATGCTCACGGATGCGGGGTGCACCCAAGACCAGAGACTGCTAGACTC TGGAGAACGCTGTGATAGGTGTCGATCAGGTTACTATAATCTGGATGGGGGGAACCCTGAGGGCTGTACCCAGTG TTTCTGCTATGGGCATTCAGCCAGCTGCCGCAGCTCTGCAGAATACAGTGTCCATAAGATCACCTCTACCTTTCA AGATGTGTTTAGCTCAGCCCAACGACTAGACCCTGTCTATTTTGTGGCTCCTGCCAAATTTCTTGGGAATCAACA GGTGAGCTATGGTCAAAGCCTGTCCTTTGACTACCGTGTGGACAGAGGAGGCAGACACCCATCTGCCCATGATGT GATTCTGGAAGGTGCTGGTCTACGGATCACAGCTCCCTTGATGCCACTTGGCAAGACACTGCCTTGTGGGCTCAC CAAGACTTACACATTCAGGTTAAATGAGCATCCAAGCAATAATTGGAGCCCCCAGCTGAGTTACTTTGAGTATCG AAGGTTACTGCGGAATCTCACAGCCCTCCGCATCCGAGCTACATATGGAGAATACAGTACTGGGTACATTGACAA TGTGACCCTGATTTCAGCCCGCCCTGTCTCTGGAGCCCCAGCACCCTGGGTTGAACAGTGTATATGTCCTGTTGG GTACAAGGGGCAATTCTGCCAGGATTGTGCTTCTGGCTACAAGAGAGATTCAGCGAGACTGGGGCCTTTTGGCAC CTGTATTCCTTGTAACTGTCAAGGGGGGGGGGCCTGTGATCCAGACACAGGAGATTGTTATTCAGGGGATGAGAA TCCTGACATTGAGTGTGCTGACTGCCCAATTGGTTTCTACAACGATCCGCACGACCCCCGCAGCTGCAAGCCATG TCCCTGTCATAACGGGTTCAGCTGCTCAGTGATGCCGGAGACGGAGGAGGTGGTGTGCAATAACTGCCCTCCCGG GGTCACCGGTGCCCGCTGTGAGCTCTGTGCTGATGGCTACTTTGGGGACCCCTTTGGTGAACATGGCCCAGTGAG GCCTTGTCAGCCCTGTCAATGCAACAACAATGTGGACCCCAGTGCCTCTGGGAATTGTGACCGGCTGACAGGCAG GTGTTTGAAGTGTATCCACAACACAGCCGGCATCTACTGCGACCAGTGCAAAGCAGGCTACTTCGGGGACCCATT GGCTCCCAACCCAGCAGACAAGTGTCGAGCTTGCAACTGTAACCCCATGGGCTCAGAGCCTGTAGGATGTCGAAG TGATGGCACCTGTGTTTGCAAGCCAGGATTTGGTGGCCCCAACTGTGAGCATGGAGCATTCAGCTGTCCAGCTTG CTATAATCAAGTGAAGATTCAGATGGATCAGTTTATGCAGCAGCTTCAGAGAATGGAGGCCCTGATTTCAAAGGC TCAGGGTGGTGATGGAGTACTGATACAGAGCTGGAAGGCAGGATGCAGCAGGCTGAGCAGGCCCTTCAGGA CATTCTGAGAGATGCCCAGATTTCAGAAGGTGCTAGCAGATCCCTTGGTCTCCAGTTGGCCAAGGTGAGGAGCCA AGAGAACAGCTACCAGAGCCGCCTGGATGACCTCAAGATGACTGTGGAAAGAGTTCGGGCTCTGGGAAGTCAGTA CCAGAACCGAGTTCGGGATACTCACAGGCTCATCACTCAGATGCAGCTGAGCCTGGCAGAAAGTGAAGCTTCCTT GGGAAACACTAACATTCCTGCCTCAGACCACTACGTGGGGCCAAATGGCTTTAAAAGTCTGGCTCAGGAGGCCAC AAGATTAGCAGAAAGCCACGTTGAGTCAGCCAGTAACATGGAGCAACTGACAAGGGAAACTGAGGACTATTCCAA ACAAGCCCTCTCACTGGTGCGCAAGGCCCTGCATGAAGGAGTCGGAAGCGGAAGCGGTAGCCCGGACGGTGCTGT GGTGCAAGGGCTTGTGGAAAAATTGGAGAAAACCAAGTCCCTGGCCCAGCAGTTGACAAGGGAGGCCACTCAAGC GGAAATTGAAGCAGATAGGTCTTATCAGCACAGTCTCCGCCTCCTGGATTCAGTGTCTCGGCTTCAGGGAGTCAG GCATATGGATGAGTTCAAGCGTACACAGAAGAATCTGGGAAACTGGAAAGAAGAAGCACAGCAGCTCTTACAGAA TGGAAAAAGTGGGAGAGAAATCAGATCAGCTGCTTTCCCGTGCCAATCTTGCTAAAAGCAGAGCACAAGAAGC ACTGAGTATGGGCAATGCCACTTTTTATGAAGTTGAGAGCATCCTTAAAAACCTCAGAGAGTTTGACCTGCAGGT GGACAACAGAAAAGCAGAAGCTGAAGAAGCCATGAAGAGACTCTCCTACATCAGCCAGAAGGTTTCAGATGCCAG TGACAAGACCCAGCAAGCAGAAAGAGCCCTGGGGAGCGCTGCTGATGCACAGAGGGCAAAGAATGGGGCCGG GGAGGCCCTGGAAATCTCCAGTGAGATTGAACAGGAGATTGGGAGTCTGAACTTGGAAGCCAATGTGACAGCAGA TGGAGCCTTGGCCATGGAAAAGGGACTGGCCTCTCTGAAGAGTGAGATGAGGGAAGTGGAAGGAGAGCTGGAAAG GAAGGAGCTGGAGTTTGACACGAATATGGATGCAGTACAGATGGTGATTACAGAAGCCCAGAAGGTTGATACCAG AGCCAAGAACGCTGGGGTTACAATCCAAGACACACTCAACACATTAGACGGCCTCCTGCATCTGATGGACCAGCC TCTCAGTGTAGATGAAGAGGGGCTGGTCTTACTGGAGCAGAAGCTTTCCCGAGCCAAGACCCAGATCAACAGCCA ACTGCGGCCCATGATGTCAGAGCTGGAAGAGAGGGGCACGTCAGCAGAGGGGCCACCTCCATTTGCTGGAGACAAG

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CATAGATGGGATTCTGGCTGATGTGAAGAACTTGGAGAACATTAGGGACAACCTGCCCCCAGGCTGCTACAATAC CCAGGCTCTTGAGCAACAGTGAAGCTGCCATAAATATTTCTCAACTGAGGTTCTTGGGATACAGATCTCAGGGCT CGGGAGCCATGTCATGTGAGTGGGTGGGGATGGGGACATTTGAACATGTTTAATGGGTATGCTCAGGTCAACTGAC CTGACCCCATTCCTGATCCCATGGCCAGGTGGTTGTCTTATTGCACCATACTCCTTGCTTCCTGATGCTGGGCAA TGCACAGGCAGATGTTTGCCTCATAATAGTCGTAAGTGGAGTCCTGGAATTTGGACAAGTGCTGTTGGGATATAG TCAACTTATTCTTTGAGTAATGTGACTAAAGGAAAAAACTTTGACTTTGCCCAGGCATGAAAATTCTTCCTAATGT CAGAACAGAGTGCAACCCAGTCACACTGTGGCCAGTAAAATACTATTGCCTCATATTGTCCTCTGCAAGCTTCTT GCTGATCAGAGTTCCTCCTACTTACAACCCAGGGTGTGAACATGTTCTCCATTTTCAAGCTGGAAGAAGTGAGCA TGGACCTGGGCATGACATCCTTTCTTTTAATGATGCCATGGCAACTTAGAGATTGCATTTTTATTAAAGCATTTC CTACCAGCAAAGCAAATGTTGGGAAAGTATTTACTTTTTCGGTTTCAAAGTGATAGAAAAGTGTGGCTTGGGCAT TGAAAGAGGTAAAATTCTCTAGATTTATTAGTCCTAATTCAATCCTACTTTTCGAACACCAAAAATGATGCGCAT CAACATATATTTATTGAGTACCTACTGTGTGCCAGGGGCTGGTGGGACAGTGGTGACATAGTCTCTGCCCTCATA TGGTGTTTATTGCAATAACCGCTTGGTTTGCAACCTCTTTGCTCAACAGAACATATGTTGCAAGACCCTCCCATG GGGGCACTTGAGTTTTGGCAAGGCTGACAGAGCTCTGGGTTGTGCACATTTCTTTGCATTCCAGCTGTCACTCTG TGCCTTTCTACAACTGATTGCAACAGACTGTTGAGTTATGATAACACCAGTGGGAATTGCTGGAGGAACCAGAGG CACTTCCACCTTGGCTGGGAAGACTATGGTGCTGCCTTGCTTCTGTATTTCCTTGGATTTTCCTGAAAGTGTTTT TAAATAAAGAACAATTGTTAGA

GTACTGGCAAGTTCGAGTGGGGCAGTAAACACAGCAAAGAGAATAGAAACTTCTCAGAAGATGTGCTGGGGTGGA GAGAGTCGTTCGACCTGCTGAGCAGTAAAAATGGAGTGGCTGCCTTCCACGCTTTCCTGAAGACAGAGTTCA GTGAGGAGAACCTGGAGTTCTGGCTGGCCTGTGAGGAGTTCAAGAAGATCCGATCAGCTACCAAGCTGGCCTCCA GGGCACACCAGATCTTTGAGGAGTTCATTTGCAGTGAGGCCCCTAAAGAGGTCAACATTGACCATGAGACCCACG AGCTGACGAGGATGAACCTGCAGACTGCCACAGCCACATGCTTTGATGCGGCTCAGGGGAAGACACGTACCCTGA TGGAGAAGGACTCCTACCCACGCTTCCTGAAGTCGCCTGCTTACCGGGACCTGGCTGCCCAAGCCTCAGCCGCCT GGAAGAGGGTTGAGTCACCCATCCCCGAGGTGGCTGCCCCTGTGTGGGAGGCAGGTTCTGCAAAGCAAGTGCAA GAGGACAAAAAAAAAAAAAAAAAAAAAAAAATGCGCTCCAGCAGCCTGTTTGGGAAGCAGCAGTCTCCTTCA GATACTGTGGGACTCATGCTGGAGAGGGGCCCCCCCTTCCAGGACCTGTGAATAAGGGCTAATGATGAGGGTTG TCTAGTGTGGTTTAGGAAACATGTGGATAAAGGGAACCATGAAAATGAGAGGAGGAAAGACATCCAGATCAGCTG TTTTGCCTGTTGCTCAGTTGACTCTGATTGCATCCTGTTTTCCTAATTCCCAGACTGTTCTGGGCACGGAAGGGA CCCTGGATGTGGAGTCTTCCCCTTTGGCCCTCCTCACTGGCCTCTGGGCTAGCCCAGAGTCCCTTAGCTTGTACC TCGTAACACTCCTGTGTGTCTCCAGCCTTGCAGTCATGTCAAGGCCAGCAAGCTGATGTGACTCTTGCCCCAT GCGAGATATTTATACCTCAAACACTGGCCTGTGAGCCCTTTCCAAGTCAGTGGAGAGCCCTGAAAGGAGGCTCAC TTGAATCCAGCTCAGTGCTCTGGGTGGCCCCTGCAGGTGGCCCCTGACCCTGCGTTGCAGCAGGGTCCACCTGT GAGCAGGCCCGCCCTGGGGCCTCTTCCTGGATGTGCCCTCTCTGAGTTCTGTGCTGTCTTTTGGAGGCAGGGCCC AGGAGAACAAAGTGTGGAGGCCTCGGGGAGTGGCTTTTCCAGCTCTCATGCCCCGCAGTGTGGAACAAGGCAGAA CTGGAGTGGGCAGAGGTGGCCCAGGACCATGGCACCCTTAGAGTGCAGAAGCTGGGGGGGAGAGGCTGCTTCGAAG CTGCGGCAGAGCCCAGGCTGGGGAAGTGAACTACCCAGGGCAGCCCCTTTGTGGCCCAGGATAATCAACACTGTT CTCTCTGTACCATGAGCTCCTCCAGGAGATTATTTAAGTGTATTGTATCATTGGTTTTCTGTGATTGTCATAACA TTGTTTTTGTTGTTGGTGCTGTTGTTATTTATTGTAATTTCAGTTTGCCTCTACTGGAGAATCTCAGCA GGGGTTTCAGCCTGACTGTCTCCCTTTCTCTACCAGACTCTACCTCTGAATGTGCTGGGAACCTCTTGGAGCCTG TCAGGAACTCCTCACTGTTTAAATATTTATTTATTGTGACAAATGGAGCTGGTTTCCTAGATATGAATGTTTT GCAATCCCCATTTTCCTGTTTCAGCATGTTATATTCTTATAAAATAAAAGCAAAAGTCAAATATG

GGGTGCGGGGCTGCTGCGGGGTCGAGAGTCGAGAGTGGGAGAAGAGCGGAGCGTGTGAGCAGTACTGCGGCCT CCCAGCCGCAAGTCCACGAAGAAAGCAACGAATGAAAATTATGAAGACAACGAGAAGTCAGACTCCTCCGGGTCG CGCTCCAGCTGCTTCGGCCTCGTCGCCTACTCTGTGAACTCCGGGGAGAGATCTCGAGTCAAGATTAAGACCTTA AAAGAGGCCAACCCTAACGATACGCTTGACTTTCTGTGGCTGGGAACACCTTCCACCATGACCACCTCAGCAAGT TCCCACTTAAATAAAGGCATCAAGCAGGTGTACATGTCCCTGCCTCAGGGTGAGAAAGTCCAGGCCATGTATATC TGGATCGATGGTACTGGAGAAGGACTGCGCTGCAAGACCCCGGACCCTGGACAGTGAGCCCCAAGTGTGTGGAAGAG TTGCCTGAGTGGAATTTCGATGGCTCTAGTACTTTACAGTCTGAGGGTTCCAACAGTGACATGTATCTCGTGCCT GCTGCCATGTTTCGGGACCCCTTCCGTAAGGACCCTAACAAGCTGGTGTTATGTGAAGTTTTCAAGTACAATCGA AGGCCTGCAGAGACCAATTTGAGGCACACCTGTAAACGGATAATGGACATGGTGAGCAACCAGCACCCCTGGTTT CCCCAGGGTCCATATTACTGTGGTGTGGGAGCAGACAGAGCCTATGGCAGGGACATCGTGGAGGCCCATTACCGG GGACCTTGTGAAGGAATCAGCATGGGAGATCATCTCTGGGTGGCCCGTTTCATCTTGCATCGTGTGTGAAGAC TTTGGAGTGATAGCAACCTTTGATCCTAAGCCCATTCCTGGGAACTGGAATGGTGCAGGCTGCCATACCAACTTC CAGTACCACATCCGTGCCTATGATCCCAAGGGAGGCCTGGACAATGCCCGACGTCTAACTGGATTCCATGAAACC TCCAACATCAACGACTTTTCTGCTGGTGTAGCCAATCGTAGCGCCAGCATACGCATTCCCCGGACTGTTGGCCAG GAGAAGAAGGGTTACTTTGAAGATCGTCGCCCCTCTGCCAACTGCGACCCCTTTTCGGTGACAGAAGCCCTCATC CGCACGTGTCTTCTCAATGAAACCGGCGATGAGCCCTTCCAGTACAAAAATTAAGTGGACTAGACCTCCAGCTGT TGAGCCCCTCCTAGTTCTTCATCCCACTCCAACTCTTCCCCCTCTCCCAGTTGTCCCGATTGTAACTCAAAGGGT TCAAGTTATTAATTTCTTCACACCTACCCTCTTTTTTTCCCTATCACTGAAGCTTTTTAGTGCATTAGTGGGGA GGAGGGTGGGGAGACATAACCACTGCTTCCATTTAATGGGGTGCACCTGTCCAATAGGCGTAGCTATCCGGACAG AGCACGTTTGCAGAAGGGGGTCTCTTCTTCCAGGTAGCTGAAAGGGGAAGACCTGACGTACTCTGGTTAGGTTAG GACTTGCCCTCGTGGTGGAAACTTTTCTTAAAAAGTTATAACCAACTTTTCTATTAAAAGTGGGAATTAGGAGAG AAGGTAGGGGTTGGGAATCAGAGAGAATGGCTTTGGTCTCTTGTTGGGACTAGCCTGGCTTGGGACTAAATG CCCTGCTCTGAACACGAAGCTTAGTATAAACTGATGGATATCCCTACCTTGAAAGAAGAAAAGGTTCTTACTGCT TTTTGTGGATTATGTGTGTTTTTGCTAAAGGAAAAAACCATCCAGGTCACGGGGCACCAAATTTGAGACAAATAGT CGGATTAGAAATAAAGCATCTCATTTTGAGTAGAGAGCAAGGGAAGTGGTTCTTAGATGGTGATCTGGGATTAGG CCCTCAAGACCCTTTTGGGTTTCTGCCCTGCCCACCCTCTGGAGAAGGTGGGCACTGGATTAGTTAACAGACAAC ACGTTACTAGCAGTCACTTGATCTCCGTGGCTTTGGTTTAAAAGACACACTTGTCCACATAGGTTTAGAGATAAG AGTTGGCTGGTCAACTTGAGCATGTTACTGACAGAGGGGGTATTGGGGTTATTTTCTGGTAGGAATAGCATGTCA CTAAAGCAGGCCTTTTGATATTAAATTTTTTAAAAAGCAAAATTATAGAAGTTTAGATTTTAAATCAAATTTGTAG GGTTTCTAGGTAATTTTTACAGAATTGCTTGTTTGCTTCAACTGTCTCCTACCTCTGCTCTTGGAGGAGATGGGG ACAGGGCTGGAGTCAAAACACTTGTAATTTTGTATCTTGATGTCTTTGTTAAGACTGCTGAAGAATTATTTTTTT TCTTTTATAATAAGGAATAAACCCCACCTTTATTCCTTCATTTCATCTACCATTTTCTGGTTCTTGTGTTGGCTG TGGCAGGCCAGCTGTGGTTTTCTTTTGCCATGACAACTTCTAATTGCCATGTACAGTATGTTCAAAGTCAAATAA CTCCTCATTGTAAACAAACTGTGTAACTGCCCAAAGCAGCACTTATAAATCAGCCTAACAT

563/6881 FIGURE 524A

GCGGGGAGGGCGGGCTATGGAGAGGAGGAGGAGGAGGAGGAGGCTGCTCTGAAGAGACCTCGGCGGCGGC GGAGGAGGAGAGAGCGCCGCCGCGCCGCGCGCGCCCATGTGGGGAGTCGGAGTCGCTGTTGCCGCCG CCGCCTGTAGCTGCTGGACCCGAGTGGGAGTGAGGGGGAAACGGCAGGATGAAGTTCGCCGAGCACCTCTCCGCG CACATCACTCCCGAGTGGAGGAAGCAATACATCCAGTATGAGGCTTTCAAGGATATGCTGTATTCAGCTCAGGAC CAGGCACCTTCTGTGGAAGTTACAGATGAGGACACAGTAAAGAGGTATTTTGCCAAGTTTGAAGAGAAGTTTTTC CAAACCTGTGAAAAAGAACTTGCCAAAATCAACACATTTTATTCAGAGAAGCTCGCAGAGGCTCAGCGCAGGTTT CGCAGAAAGCCAGTCTTCCACTTGTCCCATGAGGAACGTGTCCAACATAGAAATATTAAAGACCTTAAACTGGCC TTCAGTGAGTTCTACCTCAGTCTAATCCTGCTGCAGAACTATCAGAATCTGAATTTTACAGGGTTTCGAAAAATC CTGAAAAAGCATGACAAGATCCTGGAAACATCTCGTGGAGCAGATTGGCGAGTGGCTCACGTAGAGGTGGCCCCA TTTTATACATGCAAGAAAATCAACCAGCTTATCTCTGAAACTGAGGCTGTAGTGACCAATGAACTTGAAGATGGT GACAGACAAAAGGCTATGAAGCGTTTACGTGTCCCCCCTTTGGGAGCTGCTCAGCCTGCACCAGCATGGACTACT TTTAGAGTTGGCCTATTTTGTGGAATATTCATTGTACTGAATATTACCCTTGTGCTTGCCGCTGTATTTAAACTT GAAACAGATAGAAGTATATGGCCCTTGATAAGAATCTATCGGGGTGGCTTTCTTCTGATTGAATTCCTTTTTCTA $\tt CTGGGCATCAACACGTATGGTTGGAGACAGGCTGGAGTAAACCATGTACTCATCTTTGAACTTAATCCGAGAAGC$ AATTTGTCTCATCAACATCTCTTTGAGATTGCTGGATTCCTCGGGATATTGTGGTGCCTGAGCCTTCTGGCATGC TICTTTGCTCCAATTAGTGTCATCCCCACATATGTGTATCCACTTGCCCTTTATGGATTTATGGTTTTCTTCCTT ATCAACCCCACCAAAACTTTCTACTATAAATCCCGGTTTTGGCTGCTTAAACTGCTGTTTCGAGTATTTACAGCC CTGGAATATATGATCTGCTTCTACAGTTTGGAGCTCAAATGGGATGAAAGTAAGGGCCTGTTGCCAAATAATTCA GAAGAATCAGGAATTTGCCACAAATATACATATGGTGTGCGGGCCATTGTTCAGTGCATTCCTGCTTGGCTTCGC TTCATCCAGTGCCTGCGCCGATATCGAGACACAAAAAGGGCCTTTCCTCATTTAGTTAATGCTGGCAAATACTCC ACAACTTTCTTCATGGTGACGTTTGCAGCCCTTTACAGCACTCACAAAGAACGAGGTCACTCGGACACTATGGTG TTCTTTTACCTGTGGATTGTCTTTTATATCATCAGTTCCTGCTATACCCTCATCTGGGATCTCAAGATGGACTGG GGTCTCTTCGATAAGAATGCTGGAGAGAACACTTTCCTCCGGGAAGAGATTGTATACCCCCAAAAAAGCCTACTAC TACTGTGCCATAATAGAGGATGTGATTCTGCGCTTTGCTTGGACTATCCAAATCTCGATTACCTCTACAACTTTG TTGCCTCATTCTGGGGACATCATTGCTACTGTCTTTGCCCCCACTTGAGGTTTTCCGGCGATTTGTGTGGAACTTC TTCCGCCTGGAGAATGAACATCTGAATAACTGTGGTGAATTCCGTGCTGTGCGGGACATCTCTGTGGCCCCCCTG AACGCAGATGATCAGACTCTCCTAGAACAGATGATGGACCAGGATGATGGGGTACGAAACCGCCAGAAGAATCGG TCATGGAAGTACAACCAGAGCATATCCCTGCGCCGGCCTCGCCTCGCTTCTCAATCCAAGGCTCGTGACACTAAG GTATTGATAGAAGACACAGATGATGAAGCTAACACTTGAATTTTCTGAAGTCTAGCTTAACATCTTTGGTTTTCC TACTCTACAATCCTTTCCTCGACCAACGCAACCTCTAGTACCTTTCCAGCCGAAAACAGGAGAAAACACATAACA TTTAATTTTAATTTTCTATTTTCAAAACAAATATTTACTTCATTTGCCAATCAGAGGATGTTTTAAGAAACAAAA CATAGTATCTTATGGATTGTTTACAATCACAAGGACATAGATACCTATCAGGATGAAGAACAGGCATTGCAAGGA CCCTCTGATGGGACGGTACTGAGATATCTCGGCTTCCGCTCAGCCCGGTTTTGACTGGTTGAAACCGGACATTGG TTAACCATACAGAATGATATAACTCCTGTGCAATGAAGGTGATAACAGTAAAAGAAGGCAGGGGAAACTTACGTT GGATGACATTTATGAGGGTCAGTCCCACATACCTCTTTCAGGAGACAACTTGCACCAGTTTGACCTTTTCTTTTC TTTGTTTTTTTTTTAAGCCAAAGTTTCATTGCTAACTTCTTAAGTTGCTGCTGCTTTAGAGTCCTGAGCATATCT CTCATAACAAGGAATCCCACCACTTCACACCACCGGCTGAATTTCATGGAAGAGGTTCTGATAATTTTTTAACTT TTTAAGGAACAGATGTGGAATACACTGGCCCATATTTCAACCTTAACAGCTGAAGCTATGCCTTATTATGCATCC ACATGTATGGTCCCTGTAGCGTGACCTTTACTAGCTCTGAATCAGAAGACAGAGCTATTTCAGAGGCTCTGTGTG CCCTCACTAGATAGTTTTTCTTCTGGGTTCAACCACTTTAGCCAGAATTTGATCAAATTAAAAGTCTGTCATGGG GCCATTTCTCCCAGCAGTTTTAAAGGATGAACATTGGATTTCATGCCATCCCATAGAAAACCTGTTTTAAAATTT WO 2004/030615 PCT/US2003/028547

564/6881 FIGURE 524B

AATAAATTATTTTTGTTAAGGCAAGCATTGGTGTGTTCTTTAACTTGCTACTTGGAGACCTAGTGTCCAGTCTGG ACAGACTGCCCATAGAACTGTCTGCACCCAAACCCCATGGCCTTTTCATGCACGGAGACAGGCCTCTGGATGTGC AGCCTTGCCACCCCTGCCCCAATCCTCCCTGAGAGCTCCTGCCTCAGTGCCCTGGGCTGGTGAGGGAGAAGCCT $\tt TGGGGAGGAGTCAGCCAGGATTAGAGAGCCTGCCCCTAATCCGGCCTGCTGGGTTTTACAAGGATCAGAGCTGC\underline{T}$ **CA**TAATGAACCTCATTAAGGGGGAGCAGGAGCCTCAATCCGATTTGGTTTTCTCTTTGACATCTTCACTCTGCTC AGATGGCCTGGGTGCTATGTGGAGCAGGTGGGATGCCAAGGCCACTCCTGCTATGGGGCAGCTGGGGGCAG GGATGGCAGTCTCCCTGCATGTTTCCCTCGACCTCTTTAGCTGCAGCGCCTTGCTGGGCTCCTGGGTTGGACTCC CTCTCTGTGCCCCTGCTCCAGGCACCCATTGGCTCCATCCTCCTGGTTGTGCTCTGCACCCCCTGCTCCCTTGGG CTGGCCCTGGCTGGGGGCCTGAGAGACAGACAGAACCCACAATCAGGAGGCAACCCTGGCCTGCAAGAGGAAGA CAGAGGCTCCCAGGGCCGGTGCCCTGTGTGCCCACTGCACCAAGGCCGCTGAATAAGCCTGCCCTTCACCCCCTA AGGGCTCCTTGCCCAATGCCAAGTGCTGGGGATTTCTGTCAGCAAGCCCTGTGGCTCCAGTGACGGTATTTCTAA AGCCAAACTTAGTTACCTAGAATTAGCGCCATGTTGGAAACACTGTCGCAGCAGCCCGGGCTGCACAGTGTGTAG CCCAGCCTCCAGGTCCACGGAGTGGTGTGGACCTCCCACCTCACAGCTGCCTCTGGCAGCCAAGCCTCTTTTCGC CCGGCCCCAGCCCTCTGGTTGATAAACGGGTGGGCCTCCTCAGCAGCGTGGCTGCCTTTCACCTTGATTTCCCC ACTGGGGGCACAGGAACAATTTCCTCAAGGAGACAGTGGCATGGAGCTTTGAAAGACGAGTAGGTGTTAGCAAGG AAATAAGGAGGAACGGGGGTTACGGGCAGAGGAGAAAGCACATGCCAAGTCAGCAAAGAAAAGTAGAATTCGAAA **ACTITITAAAAATATTACTAAGGATTTTCACAATGCTGCACTGGGCTAGAAACTGAAGCTAAAACAGATACGTGG** TCCCTGCTGCTATGGGGCTTCCGTTCTAGAGGCAAGGACAGGTTGTGATGAGGGTTCTGAAGGATAGAGACCAAG CAGGGAGGGTGTTGAGGAGGCTTCTGCGAGACCTGAAGGATGGGAAGCCAGGAAGTGGGAGGGGTGGGGGTCCAG GCTGGAGGGGCCCAATGTAGGTGTAGAGGGACTACAGCCCTGAGGGGCTGCTCCATGCGGCATTCTTGGAGGTCC AAGAGGGGCAGCCACCTTGGGCCAGGCTCCTCTCCAGCAGCCTTGGTATGGGGTGGGGGAGGACCCCTG AGTCAGGTGGGCTCAGAGAGAGCCCTCAAATCTGGGCCCTGGGTCAGGGTGGGGTCAAGTCCAGCCTTGAAGAGA AACTTATCCCCTTGTCCCCATGTGTCATTGGAGATAAACTACCCACCTACCAGATTGTTGTACCATGCTGGGCAA ACACTAAGTGCTTAATAATGGTAGCCCACTGCTC

 ${\tt MHRDQPHLECSQTRCPSAHTAPGHRLPIELSAPKPHGLFMHGDRPLDVQPCHPLPQSSLRAPASVPWAGEGEACL}\\ {\tt HLPNSSSSRKQGLVCQSCRVGHSVGRSQPGLESLPLIRPAGFYKDQSC}$

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MLRGPWRQLWLFLLLLLPGAPEPRGASRPWEGTDEPGSAWAWPGFQRLQEQLRAAGALSKRYWTLFSCQVWPDDC DEDEEAATGPLGWRLPLLGQRYLDLLTTWYCSFKDCCPRGDCRISNNFTGLEWDLNVRLHGQHLVQQLVLRTVRG YLETPQPEKALALSFHGWSGTGKNFVARMLVENLYRDGLMSDCVRMFIATFHFPHPKYVDLYKEQLMSQIRETQQ LCHQTLFIFDEAEKLHPGLLEVLGPHLERRAPEGHRAESPWTIFLFLSNLRGDIINEVVLKLLKAGWSREEITME HLEPHLQAEIVETIDNGFGHSRLVKENLIDYFIPFLPLEYRHVRLCARDAFLSQELLYKEETLDEIAQMMVYVPK EEQLFSSQGCKSISQRINYFLS

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ATTTCTCCATGTGGCAGACAGACCAAAGCCACAACGCTTTCTCTGGTGGATTAAAGACGGCCCACAGACCAGAAC TTCCACTATACTACTTAAAATTACATAGGTGGCTTGTCAAATTCAATTGATTAGTATTGTAAAAGGAAAAAGAAG CTACACTGATTTTTAAAATCAAGAATAAGGGCAGCAAGTTTCTGGATTCACTGAATCAACAGACACAAAAAAGCTG AAAAACAACTAAGTAAAGACTTAAATTTAAACACATCATTTTACAACCTCATTTCAAA**ATG**AAGACTTTTACCTG GACCCTAGGTGTGCTATTCTTCCTACTAGTGGACACTGGACATTGCAGAGGTGGACAATTCAAAATTAAAAAAAT AAACCAGAGAAGATACCCTCGTGCCACAGATGGTAAAGAGGAAGCAAAGAAATGTGCATACACATTCCTGGTACC TGAACAAAGAATAACAGGGCCAATCTGTGTCAACACCAAGGGGCAAGATGCAAGTACCATTAAAGACATGATCAC GGATGTAGATGGAAACATTGTGAATGAGGTAAAGCTGCTGAGAAAGGAAAGCCGTAACATGAACTCTCGTGTTAC TCAACTCTATATGCAATTATTACATGAGATTATCCGTAAGAGGGATAATTCACTTGAACTTTCCCAACTGGAAAA CAAAATCCTCAATGTCACCACAGAAATGTTGAAGATGGCAACAAGATACAGGGAACTAGAGGTGAAATACGCTTC CTTGACTGATCTTGTCAATAACCAATCTGTGATGATCACTTTGTTGGAAGAACAGTGCTTGAGGATATTTTCCCG ACAAGACACCCATGTGTCTCCCCCACTTGTCCAGGTGGTGCCACAACATATTCCTAACAGCCAACAGTATACTCC TGGTCTGCTGGGAGGTAACGAGATTCAGAGGGATCCAGGTTATCCCAGAGATTTAATGCCACCACCTGATCTGGC AACTTCTCCCACCAAAAGCCCTTTCAAGATACCACCGGTAACTTTCATCAATGAAGGACCATTCAAAGACTGTCA GCAAGCAAAAGAAGCTGGGCATTCGGTCAGTGGGATTTATATGATTAAACCTGAAAACAGCAATGGACCAATGCA GTTATGGTGTGAAAACAGTTTGGACCCTGGGGGTTGGACTGTTATTCAGAAAAGAACAGACGGCTCTGTCAACTT CTTCAGAAATTGGGAAAATTATAAGAAAGGGTTTGGAAACATTGACGGAGAATACTGGCTTGGACTGGAAAATAT AGAATACAGCAGCTTTCGTCTGGAACCTGAAAGTGAATTCTATAGACTGCGCCTGGGAACTTACCAGGGAAATGC CTGCGCCCACTTTCATAAAGGAGGCTGGTGGTACAATGCCTGTGCACATTCTAACCTAAATGGAGTATGGTACAG AGGAGGCCATTACAGAAGCAAGCACCAAGATGGAATTTTCTGGGCCGAATACAGAGGCGGGTCATACTCCTTAAG AGCAGTTCAGATGATCAAGCCTATTGACTGAAGAGAGACACTCGCCAATTTAAATGACACAGAACTTTGTAC AATGAATTTTACCGTAACTATAAAAGGGAACCTATAAATGT

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ATGGGGCTGCTCACTGGCACTGGAGGCCGAAAGAAGGTGAGGGCAAGTGAGATGCAGGGACCTCTTCTCACAGCT GTGCTGACAAGCACAAAAAGGAGCCCCCCCACGTCCACACCAGGAAAGGGGGGATGGTGCACAAGATCCAGAGGCG TCAACAGACACGTCCAGCGAACAAGCACAGGGTGGGCCGTCCGGGAGCCTTGTGCCGCCAGGAGGAAAAGCCGCAC CGAGGGCAGCAGGGAGGCTCTGATGGCTGCCAAGAGGGTCTGATCCAGAAATATGGCCTCAATATGTGCCCCCAG TGTTTCCGTCAGTACGCGAAGGATATCGGTTTCATTAAATTGGACTAA

TAGGTTTCATTTGGAAGCTTGAGTTTTATCATTGGCAACAAATGCCATCAGTTTTTTCCAAGCTGACTTGTTCTT TTTTGAGCAAATCTCTGCCAAAATTACCCCTAAAATATGAATAATCAATTTGTCAGGTTTTTTCAAACTAAAAAT CTAGACATCCATACTTTATGGCAGATGTGCTTCATGCATACTTCCCATTTTGTCACACAGAATATCAAAATAACG TGTACTCAAGGTCAAGATTTACTAACAACTAAAATTCCAAAACTGCTAAACAACAGAATGCTGAATAAGGTGATC CAATTTTTAATATTTTATTTGAGACAACATCTCACCCTGTCACCCAGGCTGGAATCCAGTGGTGTGACACAGCTC ACTGCATCCTCAACCTCCTGGGCTCAAGCGATCGTCCCACCTCAGTCTCATGAGTGGTTGGGACTACAGGCATGC CCGGTCTTGAACTCCTGGACTCAAGCAATCCCCCCACCTTGGTTTCCCAAAGTGTTGGGATTACAGGCATGAGCT ACTACATACAACTGAAATCTTTTAATATGCTTGTCAAAAAGTTTTCTGATTCAGCAAATGGCACTTATATAAA AGAGAACAAGAAGCTGGATGCGGTGGCTCACGCCTGTAATCCCAGCACTTTGGGAGGCTAGGTGGGCAGATCA CGAGGTCAGGAGTTCGAGACCAGCCTGGCCAACGTGGTGAAACCCCCTCTCTACTAAAAATACAAAAATAGCCAG GCATGGTGGCCCACGCCTGTAATCCCAGCTACTTGGAAGGCTGAGGCAGGAGAATCGCTTGAACCTGGGAGGTGG TTGGATCACTTGAGGCCAGGAGTTCAAGACTAGCCTGGCTGACATGGTGAAACTCCATCTCTACTAAAAATACAG AAAAAAAATTAGCTGGGAGTGGTGGCACACCTGTCATCCCAGCTACTCAGGTAGTTGAGGCACAACAATCAC TTGAGCCTAGGAGGCCCAGGCTGGAGTGAGGTGGCACGATCTTGGTTCACTGCAACCTCCACCTCCAGGGTTCAG AGTAGCTGGGACTACAGGCCCACACTACCACACCCGGCTAATTTTCGCTTTTTTTCAGTAGAGACCGGGTTTTGC CATGTTGGCCAGGCTGGTCTCGAAGCCTGAGCCATAACCTGGCGAAAAGATACTTTGAAATGTAACATCGTTTTT CACTTCAAAATCAAGGTATTTTACCAACTTGTCTTTGGTACCTCCCCAAAAACTGATCTACTACATTTGCAGTTT CATTCATTTTTCCAACATTAAGGAATAAACTTGAAGCGCTTACATTCTTGTGGGGGAAGTAAGAACAAAACACAT TTTTTTTGAGACCAAGTCTCGCCGTTGCCCAGGCTGGAGTGCGGTGGCATGATCTCAGTTCACTGCAACCTCCAC TTCCTAGGTTCAAGCAATTCTCCTGCCTCAGCTACTCAAGAGGCTGAGGCAGGAATTCCTTGAACCTGGGAGG AAAAAATACTTGGAACTGCTATACCTTTGCTTCTTTAAAACTTGCTCCACACAGTGTAGTCAAGCCGACTCTCCA TACCTGTAGAAATTTAATCTCCTTTACCAATAGGTAGTAATAGGTGGATTTCTAAAAGATTTCCCAACTACTGTT TCAGTTTAAGATTAATCTCCATTTTCTTCTCAGAGAGATTCCCATCTGCTTTAATTTTAAAATCATCACTAACA GTAGCTCAATCAATTAACGTTAACATCAATAAAACATGTACCTTTAAAAGGTATGACAGGAACTGTCTTCATGTC CTTACCCAAGCAAGTCATCCATGGATAAAAACGTTACCAGGAGCTGGAATACAAATGAGGACTTCCATTAAAATG CTAAACATCATTAAACTCTTTTCAAAGTTGTCTGTC

 ${\tt MCFMHTSHFVTQNIKITCTQGQDLLTTKIPKLLNNRMLNKVIQFLIFYLRQHLTLSPRLESSGVTQLTASSTSWAQAIVPPQSHEWLGLQACTIMPGSLFFSFFF}$

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TCC

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GCCTGTCTGCATTCTACTATATAAAGCAGCAGAGACGTTGACTAGCGCATATTTGCTAAGAGCACCATGCGCGCA GCAGCCATCTCCACTCCAAAGTTAGACAAAATGCCAGGAATGTTCTTCTCTGCTAACCCAAAGGAATTGAAAGGA ACCACTCATTCACTTCTAGACGACAAAATGCAAAAAAGGAGGCCAAAGACTTTTGGAATGGATATGAAAGCATAC CTGAGATCTATGATCCCACATCTGGAATCTGGAATGAAATCTTCCAAGTCCAAGGATGTACTTTCTGCTGCTGAA TTGCCCTGTAAAGCAGAAGAGATATATAAAGCATTTGTGCATTCAGATGCTGCTAAACAAATCAATATTGACTTC CGCACTCGAGAATCTACAGCCAAGAAGATTAAAGCACCAACCCCCACGTGTTTTGATGAAGCACAAAAAGTCATA TATACTCTTATGGAAAAGGACTCTTATCCCAGGTTCCTCAAATCAGATATTTACTTAAATCTTCTAAATGACCTG CAGGCTAATAGCCTAAAGTGACTGGTCCCTGGCTGAAGGGAATTAACAGATAGTATCAAGCGCAGAAGGAATGTG CCAGTATGGCTCCCTGGGTGAACAGCTTGGCCTTTTTTGGGTGTCTTGACAGGCCAAGAAGAACAAATGACTCAG AATGGATTAACATGAAAGTTATCCAGGCGCAGAGTTGAAGAAGCATAAGCAAGACAAAAACAGAGAGACCGCAGA AGGAGGAAGATACTGTGGTACTGTCATAAAAAACAGTGGAGCTCTGTATTAGAAAGCCCCTCAGAACTGGGAAGG CCAGGTAACTCTAGTTACACAGAAACTGTGACTAAAGTCTATGAAACTGATTACAACAGACTGTAAGAATCAAAG TCAACTGACATCTATGCTACATATTATTATATAGTTTGTACTGAGCTATTGAAGTCCCATTAACTTAAAGTATAT ACTGTGTATTTAACTTAAGCTATTGCTCTTAAAACCAGGGAGTCAGAATATATTTGTAAGTTAAATCATTGGTGC TAATAATAAATGTGGATTTTGTATTAAAATATATAGAAGCAATTTCTGTTTACATGTCCTTGCTACTTTTAAAAA CTTGCATTTATTCCTCAGATTTTAAAAATAAATAAATAATTCATTT

 ${\tt MQIFVKTLMGKTITLEVELSDTIDNVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRGGKKKKSYTTPRKNKHKRKKVKLALLKYYKVDENGFMASHFDRHYCGKCCLTYCFNKPEDK}$

. CCATGGACAAGAGCGCAGGCAGTGGCCACAAGAGCGAGGAGAAGCGAGAAAAGATGAAACGGACCCTTTTAAAAG ATTGGAAGACCCGTTTGAGCTACTTCTTACAAAATTCCTCTACTCCTGGGAAGCCCAAAACCGGCAAAAAAAGCA ${\tt AACAGCAAGCTTTCATCAAGCCTTCTCCTGAGGAAGCACAGCTGTGGTCAGAAGCATTTGACGAGCTGCTAGCCA}$ CCTGTGAAGACTTCAAAAAAACCAAATCACCCCAAAAGCTGTCCTCAAAAGCAAGGAAAATATATACTGACTTCA TAGAAAAGGAAGCTCCAAAAGAGATAAACATAGATTTTCAAACCAAAACTCTGATTGCCCCAGAATATACAAGAAG CTACAAGTGGCTGCTTTACAACTGCCCAGAAAAGGGTATACAGCTTGATGGAGAACAACTCTTATCCTCGTTTCT $\tt TGGAGTCAGAATTCTACCAGGACTTGTGTAAAAAGCCACAAATCACCACAGAGCCTCATGCTACA\underline{TGA}{A}ATGTAA$ AAGGGAGCCCAGAAATGGAGGACATTTCATTCTTTTTCCTGAGGGGAAGGACTGTGACCTGCCATAAAGACTGAC CTTGAATTCAGCCTGGGTGTTCAGGAAACATCACTCAGAACTATTGATTCAAAGTTGGGTAGTGAATCAGGAAGC CAGTAACTGACTAGGAGAAGCTGGTATCAGAACAGCTTCCCTCACTGTGTACAGAACGCAAGAAGGGAATAGGTG GTCTGAACGTGGTGTCTCACTCTGAAAAGCAGGAATGTAAGATGATGAAAGAGACAATGTAATACTGTTGGTCCA AAAGCATTTAAAATCAATAGATCTGGGATTATGTGGCCTTAGGTAGCTGGTTGTACATCTTTCCCTAAATCGATC CATGTTACCACATAGTAGTTTAGGTTTAGGATTCAGTAACAGTGAAGTGTTTACTATGTGCAAGGGTATTGAAGT TCTTATGACCACAGATCATCAGTACTGTTGTCTCATGTAATGCTAAAACTGAAATGGTCCGTGTTTGCATTGTTA AAAATGATGTGTGAAAATAGAATGAGTGCTATGGTGTTGAAAACTGCAGTGTCCGTTATGAGTGCCAAAAATCTGT

 ${\tt MQSAMFLAVQHDCRPMDKSAGSGHKSEEKREKMKRTLLKDWKTRLSYFLQNSSTPGKPKTGKKSKQQAFIKPSPE}\\ {\tt EAQLWSEAFDELLASKYGLAAFRAFLKSEFCEENIEFWLACEDFKKTKSPQKLSSKARKIYTDFIEKEAPKEINI\\ {\tt DFQTKTLIAQNIQEATSGCFTTAQKRVYSLMENNSYPRFLESEFYQDLCKKPQITTEPHAT}\\ {\tt CARREST STATEMENT STATE$

AGCCTGAGGAGCTATTTTGAGCAATGGGGAATGCTCACGGACTGTGTGGTAATGAGAGACCCAAACACCAAGTGC ${\tt TCCAGGGGCTTTGGGTTTGTCACATATGCCATTGTGGAGGAGGTGGATGCAGCCATGAATGCAAGGCCACACAAG}$ GTGGATGGAAGAGTTGGAGAACCAAAGAGAGCTGTTTCAAGGGAAGATTCTCAAAGACCAGGTGCTCACTTAACT GTGAAAAAGATATTTGTTGGCAGCATTAAAGAAGACACTGAAGAACATCACCTAAGAGATAATTTGAACAGTTTG GAAAAACGGAAGTGATTGAAATCATGACTGACTGAGGCAGTGGCAAGAAAAGGGGCTTTGCCTTTGTAACCTTTG ATGACCATGACTCTGTGAATAAGACTGCCATTCAGAAATACCATCCTACGAATGGCCATAACTGTGAAGTTAGGA AAGCCCTGTCAAAGTAAGAGATGGCTAGTGCTTCATCCAGCCAAAGAAGTCGAAGTGGTTCTGGAAACTTTGGTT TGGTCGTGGAGGTGGTTTCGGTTGGCATGACAGCCGTGGTGGTGGTGGTGGTATATGGTGGCAGTGAGGATGGCGA TAATGGATTTGGTAATGATGGAAGCAATTTTGGAGGTGGTGGAAGCTACAGTGATTTTGGCAACTACAATAATCA GTCTTCAAATTTTGGACCCATGAAGGGAGGAAACTTTGGAGGCAGAAGCTCTGGGCCCCTATGGCGGTGGAGGCC AATACTCTGCCAAACCACGAAACCAAGGTGGCTATGGTGGTTTCAGTAGCAGCAGTAGCTATGGCAGTAGCAGAA ATTTGTGAACTCAGCCAAGCACAGTGGTGGCAGGGCCTAACTGCTACAAAGGAGACATGTTTTAGACAAATACTC ATGTGTATGGGCAAAAAACTCGAGGACTGTATTTGTGACTAATTGTGTAACAGGTTATTTTAGTTTCTGTTCTGT AAATGTAATAGTCTGATGGTGATGCTGAATAAATGTCTT

AGGCAGAGCCCGCGAGGAGGTGACGCGGCTGCGGAGGTGACGCGGGAGGTCGCGCGCCCCTTCCGGCGCGGGAG GGCGCTGAAGATCGGGGCCGCTCGGCCGCAGGCCGCCTCCAGCGCCGCGGGATGTAGCGCGGGGGACCGCGGCCCC $\tt CCAGCAGAGCCCGCCTGCCCGGCTTTTAGAAGACCAAACTGGACAATGGACTTTGCTCACTATGATGACATGATC$ TCCATTGACCTCCATTTGTCTACCATCAGAGGGAGATCTCTGCCCCCTGGGGCTGAGAGACCCCAACCTTTCCCC AAGCTGAAGCTGCAGGGTATTGAGGTACCAGCCAGATGTCTTCCCACAAAGGATCTGTGGTGGCACAGGGGAATG GGGCTCCTGCCAGTAACAGGGAAGCTGACACGGTGGAACTGGCTGAACTGGGACCCCTGCTAGAAGAGAAGAGGGCA AACGGGTAATCGCCAACCCACACAAGCTGAAGAAGAGACAAACATGCCCAGTGCCCCAGGAAGAAGAGAGGAGGAGG TGCGGGTACTGACACTTCCCCTGCAAGCCCACCACGCCATGGAGAGATGGAAGAGTTTGTGTACAAGGTCTGGG AGGGACGTTGGAGGGTCATCCCATATGATGTGCTCCCTGACTGGCTAAAGGACAACGACTATCTGCTACATGGTC ATAGACCTCCCATGCCCTCCTTTCGGGCTTGCTTCAAGAGCATCTTCCGCATTCATACAGAAACTGGCAACATCT GGACCCATCTGCTTGGTTTCGTGTTTTCTCTTTTTGGGAATCTTGACCATGCTCAGACCAAATATGTACTTCA TGGCCCCTCTACAGGAGAAGGTGGTTTTTGGGATGTTCTTTTTGGGTGCAGTGCTCTGCCTCAGCTTCTCCTGGC TCTTTCACACCGTCTATTGTCATTCAGAGAAAGTCTCTCGGACTTTTTCCAAACTGGACTATTCAGGGATTGCTC TTCTAATTATGGGGAGCTTTGTCCCCTGGCTCTATTATTCCTTCTACTGCTCCCCACAGCCACGGCTCATCTACC GGCAGACAAGAGCAGGCGTGTTCCTGGGACTTGGCTTGAGTGGCGTCGTGCCCACCATGCACTTTACTATCGCTG AGGGCTTTGTCAAGGCCACCACAGTGGGCCAGATGGGCTGGTTCTTCCTCATGGCTGTGATGTACATCACTGGAG CTGGCCTTTATGCTGCATCGAATTCCTGAGCGCTTCTTTCCTGGAAAATTTGACATATGGTTCCAGTCTCATCAGA TTTTCCATGTCCTGGTGGCAGCAGCCTTTGTCCACTTCTATGGAGTCTCCAACCTTCAGGAATTCCGTTACG GCCTAGAAGGCGGCTGTACTGATGACACCCTTCTCTGAGCCTTCCCACCTGCGGGGTGGAGGAACTTCCCAA GTGCTTTTAAAAATAACTTCTTTGCTGAAGTGAGAGGAAGAGTCTGAGTTGTCTGTTTCTAGAAGAAACCTCTTA GAGAATTCAGTACCAACCAAGCTTCAGCCCACTTTCACACCCACTGGGCAATAAACTTTCCATTTCCATTCTCCT AGCTGGGGATGGGCATGGTCAAACTTAGCCATCCCCTCCTCAGCAAGGCATCTACCGGCCCCTCACAGAACAG TACTTTGAAACTCATGTTGAGATTTTACCCTCTCCACCATTTTTGGGAAAATTATGGACTGGGACTCTTCAG AAATTCTGTCTTTTCTTCTGGAAGAAATGTCCCTCCCTTACCCCCATCCTTAACTTTGTATCCTGGCTTATAAC AGGCCATCCATTTTTGTAGCACACTTTTCAAAAACAATTATATACCCTGGTCCCATCTTTCTAGGGCCTGGATCT GCTTATAGAGCAGGAAGAATAAAGCCACCAACTTTTACCTAGCCCGGCTAATCATGGAAGTGTGTCCAGGCTTCA AGTAACTTGAGTTTTAATTTTTTTTTTTTTTTTTTGGCAGAGTAATGTAAAATTTAAATGGGGAAAGATATTTAATAT TTAATACTAAGCTTTAAAAAGAAACCTGCTATCATTGCTATGTATCTTGATGCAAAGACTATGATGTTAATAAAA GAAAGTACAGAAGACACTTGGCATTCAAAGATTTC

GACGCCTGCTCCGGCCGAGTGACCGTGGCGGATTACGCCAACTCGGATCCGGCGGTCGTGAGGTCTGGACGAGTC AAGAAAGCCGTAGCCAACGCTGTTCAGCAGGAAGTAAAATCTCTTTGTGGCTTGGAAGCCTCTCAGGTTCCTGCA AGCATCCATGAGAGAACTGTCTCCAGAAAAAAGAAAAGCAAGAGACACAAAGAAGAACTGGACGGGGCTGGAGGA GAAGAGTATCCCATGGATATTTGGCTATTGCTGGCCTCCTATATCCGTCCTGAGGACATTGTGAATTTTTCCCTG ATTTGTAAGAATGCCTGGACTGTCACTTGCACTGCTGTTTTGGACCAGGTTGTACCGAAGGCACTACACGCTG GATGCTTCCCTGCCTTTGCGTCTGCGACCAGAGTCAATGGAGAAGCTGCGCTGTCTCCGGGCTTGTGTGATCCGA TCTCTGTACCATATGTATGAGCCATTTGCTGCTCGAATCTCCAAGAATCCAGCCATTCCAGAAAGCACCCCCAGC TTCAACTTCAAGTTCAAAAAACAGTCCCCTAGGTTAAAGAGCAAGTGTACAGGAGGATTGCAGCCTCCCGTTCAG TACGAAGATGTTCATACCAATCCAGACCAGGACTGCTGCCTACTGCAGGTCACCACCCTCAATTTCATCTTTATT CCGATTGTCATGGGAATGATATTTACTCTGTTTACTATCAATGTGAGCACGGACATGCGGCATCATCGAGTGAGA CTGGTGTTCCAAGATTCCCCTGTCCATGGTGGTCGGAAACTGCGCAGTGAACAGGGTGTGCAAGTCATCCTGGAC $\texttt{CCAGTGCACAGCGTTCGGCTCTTTGACTGGTGGCATCCTCAGTACCCATTCTCCCTGAGAGCG} \underline{\textbf{TAG}} \texttt{TTACTGCTT}$ $\tt CCCATCCCTTGGGGGCAGCCTCGAGTGTAGTCCATTAGTAATCAGATTCCAGTTTGGACAGGGTGGCTGGATTGT$ GGGAAAACAACTACTATGATTTATAAACATATTTTAATGTAAAAATTTGCATTTAAAAGGAGTGGCCCTGTTTTC TGTGTTAAAACCCCATTTGGTGCTATTGAGTTTGTTCTTTATTCTTTTATCCCAGTGAAAATTGTTGATCTTGCT GTAGGGAAAAATTAAACTCTTTGAATCTCCAAACAAGGAAGTTTCAGCATTCCCTTATGGATCAGAGGAACCTTA GAGGCCTGAAATTGTTGCTTCCAGTTTAGCTGCCCCTCAAATTCAAGTGAATATTTTCCCTTCTCCCTTTACCCT

MARGPGPLGRPRPDTVAMPKRGKRLKFRAHDACSGRVTVADYANSDPAVVRSGRVKKAVANAVQQEVKSLCGLEA SQVPAEEALSGAGEPCDIIDSSDEMDAQEESIHERTVSRKKKSKRHKEELDGAGGEEYPMDIWLLLASYIRPEDI VNFSLICKNAWTVTCTAAFWTRLYRRHYTLDASLPLRLRPESMEKLRCLRACVIRSLYHMYEPFAARISKNPAIP ESTPSTLKNSKCLLFWCRKIVGNRQEPMWEFNFKFKKQSPRLKSKCTGGLQPPVQYEDVHTNPDQDCCLLQVTTL NFIFIPIVMGMIFTLFTINVSTDMRHHRVRLVFQDSPVHGGRKLRSEQGVQVILDPVHSVRLFDWWHPQYPFSLR A

AGTGGAGTGGGACAGGTATATAAAGGAAGTACAGGGCCTGGGGAAGAGGCCCTGTCTAGGTAGCTGGCACCAGGA GCCGTGGGCAAGGGAAGAGGCCACACCCTGCCCTGCTCTGCTGCAGCCAGAATGGGTGTGAAGGCGTCTCAAACA GGCTTTGTGGTCCTGGTGCTGCTCCAGTGCTCTGCATACAAACTGGTCTGCTACTACACCAGCTGGTCCCAG TACCGGGAAGGCGATGGGAGCTGCTTCCCAGATGCCCTTGACCGCTTCCTCTGTACCCACATCATCTACAGCTTT GCCAATATAAGCAACGATCACATCGACACCTGGGAGTGGAATGATGTGACGCTCTACGGCATGCTCAACACACTC AAGAACAGGAACCCCAACCTGAAGACTCTCTTGTCTGTCGGAGGATGGAACTTTGGGTCTCAAAGATTTTCCAAG ATAGCCTCCAACACCCAGAGTCGCCGGACTTTCATCAAGTCAGTACCGCCATTTCTGCGCACCCATGGCTTTGAT GGGCTGGACCTTGCCTGGCTCTACCCTGGACGGAGAGACAAACAGCATTTTACCACCCTAATCAAGGAAATGAAG GCCGAATTTATAAAGGAAGCCCAGCCAGGGAAAAAGCAGCTCCTGCTCAGCGCAGCACTGTCTGCGGGGAAGGTC ACCATTGACAGCAGCTATGACATTGCCAAGATATCCCAACACCTGGATTTCATTAGCATCATGACCTACGATTTT CATGGAGCCTGGCGTGGGACCACAGGCCATCACAGTCCCCTGTTCCGAGGTCAGGAGGATGCAAGTCCTGACAGA TTCAGCAACACTGACTATGCTGTGGGGTACATGTTGAGGCTGGGGGGCTCCTGCCAGTAAGCTGGTGATGGGCATC CCCACCTTCGGGAGGAGCTTCACTCTGGCTTCTTCTGAGACTGGTGTTGGAGCCCCAATCTCAGGACCGGGAATT CCAGGCCGGTTCACCAAGGAGGCAGGGACCCTTGCCTACTATGAGATCTGTGACTTCCTCCGCGGAGCCACAGTC CATAGAATCCTCGGCCAGCAGGTCCCCTATGCCACCAAGGGCAACCAGTGGGTAGGATACGACGACCAGGAAAGC TTCCAGGGCTCCTTCTGTGGCCAGGATCTGCGCTTCCCTCTCACCAATGCCATCAAGGATGCACTCGCTGCAACG TAGCCCTCTGTTCTGCACACAGCACGGGGGCCAAGGATGCCCCGTCCCCCTCTGGCTCCAGCTGGCCGGGAGCCT GATCACCTGCCCTGCTGAGTCCCAGGCTGAGCCTCAGTCTCCCTTCCCTTGGGGCCTATGCAGAGGTCCACAACAC ACAGATTTGAGCTCAGCCCTGGTGGGCAGAGAGGTAGGGGATGGGGCTGTGGGGATAGTGAGGCATCGCAATGTAA GACTCGGGATTAGTACACACTTGTTGATTAATGGAAATGTTTACAGATCCCCAAGCCTGGCAAGGGAATTTCTTC AACTCCCTGCCCCCAGCCCTCCTTATCAAAGGACACCATTTTGGCAAGCTCTATCACCAAGGAGCCAAACATCC TACAAGACACAGTGACCATACTAATTATACCCCCTGCAAAGCCCAGCTTGAAACCTTCACTTAGGAACGTAATCG TGTCCCCTATCCTACTTCCCCTTCCTAATTCCACAGCTGCTCAATAAAGTACAAGAGCTTAACAGTGTGTTGGCG TCTGAGCCTTGGGACCCCTGAGCTTGCAGAGATGAGGCCGCCATGT

GCCACGGGAAGGGAACCGACATGCTCCCGGAGATCGCCGCCGCCGTGGGCTTCCTCCAGCCTCCTGAGGACCC GGGGCTGCGTGAGCGAGCAGAGGCTTAAGGTCTTCAGCGGGGGCGCTCCAGGAGGCACTCACAGAGCACTACAAAC ACCACTGGTTTCCCGAAAAGCCGTCCAAGGGCTCCGGCTACCGCTGCATTCGCATCAACCACAAGATGGACCCCA TGTGGGTGGACCCCTATGAGGTGTCCTACCGCATTGGGGAGGACGGCTCCATCTGCGTCTTGTACGAGGAGGCCC CACTGGCCGCCTCCTGTGGGCTCCTCACCTGCAAGAACCAAGTGCTGCTGGGCCGGAGCAGCCCCTCCAAGAACT ACGTGATGGCAGTCTCCAGC<u>TAG</u>GCCCTTCCGCCCCCGCCCTGGGCGCCGTGCTCATGCTGCCGTGACAACA AAAGGAGGAAAAGAAACCAAAAGTTTTTTTAAGAAAAAAATCCTTCAAGGGAGCTGCTTGGAAGTGGCCTCCC CAGGTGCCTTTGGAGAGAACTGTTGCGTGCTTGAGTCTGTGAGCCAGTGTCTGCCTATAGGAGGGGGAGCTGTTA GGTTAGCAACTGTGAACAGAGGTCGGGATTTGCCCTGGGGGAGGAAGAGAGGCCCAAGTTCAGAGCTCTCTGTC TCCCCCAGCCAGACACCTGCATCCCTGGCTCCTCTATTACTCAGGGGCATTCATGCCTGGACTTAAACAATACTA TGTTATCTTTTCTTATTTTCTAATGAGGTCCTGGGCAGAGAGTGAAAAGGCCTCTCCTGATTCCTACTGTCC TAAGCTGCTTTTCTTGAAATCATGACTTGTTTCTAATTCTACCCTCAGGGGCCTGTAGATGTTGCTTTCCAGCCA GAAATTTTGGGACCCAAAGAGTATCCACTGGGGATGTTTTTTTGGCCAAAACTCTTCCTTTTGGAACCACATGAAA GTCTTGATGCTGCCATGATCCCTTTGAGAGGTGGCTCAAAAGCTACAGGGAACTCCAGGTCCTTTATTACTG CCTTCTTTTCAAAAGCACAACTCTCCTCTAACCCTCCCCCTCCCCTTCTGGTCGGGTCATAGAGCTACCG TATTTTCTAGGACAAGAGTTCTCAGTCACTGTGCAATATGCCCCCTGGGTCCCAGGAGGGTCTGGAGGAAAACTG AGTCAGCCTTGCATGTATTCCTTGGCTGAATGGGAGAGTGCCCCATGTTCTGCAAGACTACTTGGTATTCTTGTA GGGCCGACACTAAATAAAAGCCAAACCTTGGGCACTGTTTTTTCTCCCTGGTGCTCAGAGCACCTGTGGGAAAGG TTGCTGTCTGTCTCAGTACAATCCAAATTTGTCGTAGACTTGTGCAATATATACTGTTGTGGGTTGGAGAAAAGT GGAAAGCTACACTGGGAAGAAACTCCCTTCCTTCAATTTCTCAGTGACATTGATGAGGGGTCCTCAAAAGACCTC GAGTTTCCCAAACCGAATCACCTTAAGAAGGACAGGGCTAGGGCATTTGGCCAGGATGGCCACCCTCCTGCTGTT GCCCCTTAGTGAGGAATCTTCACCCCACTTCCTCTACCCCCAGGTTCTCCTCCCCACAGCCAGTCCCCTTTCCTG GATTTCTAAACTGCTCAATTTTGACTCAAAGGTGCTATTTACCAAACACTCTCCCTACCCATTCCTGCCAGCTCT GCCTCCTTTTCAACTCTCCACATTTTGTATTGCCTTCCCAGACCTGCTTCCAGTCTTTATTGCTTTAAAGTTCAC TTTGGGCCCACAGACCCAAGAGCTAATTTTCTGGTTTGTGGGTTGAAACAAAGCTGTGAATCACTGCAGGCTGTG TTCTTGCATCTTGTCTGCAAACAGGTCCCTGCCTTTTTAGAAGCAGCCTCATGGTCTCATGCTTAATCTTGTCTC TCTTCTCTTTTATGATGTTCACTTTAAAAACAACAAAAACCCCTGAGCTGGACTGTTGAGCAGGCCTGTCTCTC CTATTAAGTAAAAATAAATAGTAGTAGTATGTTTGTAAGCTATTCTGACAGAAAAGACAAAGGTTACTAATTGTA TGATAGTGTTTTTATATGGAAGAATGTACAGCTTATGGACAAATGTACACCTTTTTGTTACTTTAATAAAAATGT AGTAGGATAAAAAAAAA

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YSEDEDSEGEEKSDGELVVLTD

593/6881 FIGURE 553A

GCTTTCAGGCGATCTGGAGAAAGAACGGCAGAACACACAGCAAGGAAAGGTCCTTTCTGGGGATCACCCCATTGG GGGGCCTGCTATCCACCTGTTGGGGACCTGCTTGTTGGGAGGACCCGGTTTCTCCGAGCTTCATCTACCTGTGGA CTGACCAAGCCTGAGACCTACTGCACCCAGTATGGCGAGTGGCAGATGAAATGCTGCAAGTGTGACTCCAGGCAG CCTCACAACTACTACAGTCACCGAGTAGAGAATGTGGCTTCATCCTCCGGCCCCATGCGCTGGTGGCAGTCCCAG AATGATGTGAACCCTGTCTCTCTGCAGCTGGACCTGGACAGGAGATTCCAGCTTCAAGAAGTCATGATGGAGTTC CAGGGGCCCATGCCCGCCGGCATGCTGATTGAGCGCTCCTCAGACTTCGGTAAGACCTGGCGAGTGTACCAGTAC CTGGCTGCCGACTCCACCTTCCCTCGGGTCCGCCAGGGTCGGCCTCAGAGCTGGCAGGATGTTCGGTGC CAGTCCCTGCCTCAGAGGCCTAATGCACGCCTAAATGGGGGGGAAGGTCCAACTTAACCTTATGGATTTAGTGTCT GGGATTCCAGCAACTCAAAGTCAAAAATTCAAGAGGTGGGGGGAGATCACAAACTTGAGAGTCAATTTCACCAGG AGCTGCTTCTGTCACGGCCATGCTGATCGCTGCGCACCCAAGCCTGGGGCCCTCTGCAGGCCCCTCCACCGCTGTG CAGGTCCACGATGTCTGTCTGCCAGCACACACTGCCGGCCCAAATTGTGAGCGCTGTGCACCCTTCTACAAC AACCGGCCCTGGAGACCGGCGGAGGGCCAGGACGCCCATGAATGCCAAAGGTGCGACTGCAATGGGCACTCAGAG ACATGTCACTTTGACCCCGCTGTGTTTGCCGCCAGCCAGGGGGGCATATGGAGGTGTGTGACAATTGCCGGGAC CACACCGAAGGCAAGAACTGTGAGCGGTGTCAGCTGCACTATTTCCGGAACCGGCGCCCCGGGAGCTTCCATTCAG GAGACCTGCATCTCCTGCGAGTGTGATCCGGATGGGGCAGTGCCAGGGGCTCCCTGTGACCCAGTGACCGGGCAG TGTGTGTGCAAGGAGCATGTGCAGGGAGAGCGCTGTGACCTATGCAAGCCGGGCTTCACTGGACTCACCTACGCC AACCCGCAGGGCTGCCACCGCTGTGACTGCAACATCCTGGGGTCCCGGAGGGACATGCCGTGTGACGAGGAGAGT GGGCGCTGCCTTTGTCTGCCCAACGTGGTGGGTCCCAAATGTGACCAGTGTGCTCCCTACCACTGGAAGCTGGCC AGTGGCCAGGGCTGTGAACCGTGTGCCTGCGACCCGCACAACTCCCCTCAGCCCACAGTGCAACCAGTTCACAGG GCAGTGCCCTGTCGGGAAGGCTTTGGTGGCCTGATGTGCAGCGCTGCAGCCATCCGCCAGTGTCCAGACCGGACC TATGGAGACGTGGCCACAGGATGCCGAGCCTGTGACTGTGATTTCCGGGGAACAGAGGGCCCGGGCTGCGACAAG GCATCAGGCCGCTGCCTCTGCCGCCCTGGCTTGACCGGGCCCCGCTGTGACCAGTGCCAGCGAGGCTACTGCAAT CGCTACCCGGTGTGCGTGGCCTGCCACCCTTGCTTCCAGACCTATGATGCGGACCTCCGGGAGCAGGCCCTGCGC TTTGGTAGACTCCGCAATGCCACCCGCCAGCCTGTGGTCAGGGCCTGGGCTGGAGGACCGTGGCCTGGCCTCCCGG ATCCTAGATGCAAAGAGTAAGATTGAGCAGATCCGAGCAGTTCTCAGCAGCCCCGCAGTCACAGAGCAGGAGGTG GCTCAGGTGGCCAGTGCCATCCTCTCCCTCAGGCGAACTCTCCAGGGCCTGCAGCTGGATCTGCCCCTGGAGGAG GAGACGTTGTCCCTTCCGAGAGACCTGGAGAGTCTTGACAGAAGCTTCAATGGTCTCCTTACTATGTATCAGAGG AAGAGGGAGCAGTTTGAAAAAATAAGCAGTGCTGATCCTTCAGGAGCCTTCCGGATGCTGAGCACAGCCTACGAG CAGTCAGCCCAGGCTGCTCAGCAGGTCTCCGACAGCTCGCGCCTTTTGGACCAGCTCAGGGACAGCCGGAGAGAG GCAGAGAGGCTGGTGCGGCAGGCGGGAGGAGGAGGAGGAGGCACCGGCAGCCCCAAGCTTGTGGCCCTGAGGCTGGAG ATGTCTTCGTTGCCTGACCTGACACCCTCCAACAAGCTCTGTGGCAACTCCAGGCAGATGGCTTGCACCCCA ATATCATGCCCTGGTGAGCTATGTCCCCAAGACAATGGCACAGCCTGTGGCTCCCGCTGCAGGGGTGTCCTTCCC AGGGCCGGTGGGGCCTTCTTGATGGCGGGGCAGGTGGCTGAGCAGCTGCGGGGGCTTCAATGCCCAGCTCCAGCGG ACCAGGCAGATGATTAGGGCAGCCGAGGAATCTGCCTCACAGATTCAATCCAGTGCCCAGCGCTTGGAGACCCAG GTGAGCGCCAGCCGCTCCCAGATGGAGGAAGATGTCAGACGCACACGGCTCCTAATCCAGCAGGTCCGGGACTTC CTAACAGACCCCGACACTGATGCAGCCACTATCCAGGAGGTCAGCGAGGCCGTGCTGGCCCTGTGGCTGCCCACA GACTCAGCTACTGTTCTGCAGAAGATGAATGAGATCCAGGCCATTGCAGCCAGGCTCCCCAACGTGGACTTGGTG CTGTCCCAGACCAAGCAGGACATTGCGCGTGCCCGCCGGTTGCAGGCTGAGGCTGAGGAAGCCAGGAGCCGAGCC CATGCAGTGGAGGGCCAGGTGGAAGATGTGGTTGGGAACCTGCGGCAGGGGACAGTGGCACTGCAGGAAGCTCAG GACACCATGCAAGGCACCAGCCGCTCCCTTCGGCTTATCCAGGACAGGGTTGCTGAGGTTCAGCAGGTACTGCGG CCAGCAGAAAAGCTGGTGACAAGCATGACCAAGCAGCTGGGTGACTTCTGGACACGGATGGAGGAGCTCCGCCAC CAAGCCCGGCAGCAGGGGGCAGAGGCAGTCCAGGCCCAGCAGCTTGCGGAAGGTGCCAGCGAGCAGCATTGAGT GCCCAAGAGGGATTTGAGAGAATAAAACAAAAGTATGCTGAGTTGAAGGACCGGTTGGGTCAGAGTTCCATGCTG GGTGAGCAGGGTGCCCGGATCCAGAGTGTGAAGACAGAGGCAGAGGAGCTGTTTGGGGAGACCATGGAGATGATG GACAGGATGAAAGACATGGAGTTGGAGCTGCTGCGGGGGCAGCCAGGCCATCATGCTGCGCTCGGCGGACCTGACA ${\tt GGACTGGAGAAGCGTGTGGAGCAGATCCGTGACCACATCAATGGGCGCGTGCTCTACTATGCCACCTGCAAG{\tt TGA}$

594/6881 FIGURE 553B

 ${\tt MRPFFLLCFALPGLLHAQQACSRGACYPPVGDLLVGRTRFLRASSICGLTKPETYCTQYGEWQMKCCKCDSRQPH}$ NYYSHRVENVASSSGPMRWWQSQNDVNPVSLQLDLDRRFQLQEVMMEFQGPMPAGMLIERSSDFGKTWRVYQYLA ADCTSTFPRVRQGRPQSWQDVRCQSLPQRPNARLNGGKVQLNLMDLVSGIPATQSQKIQEVGEITNLRVNFTRLA PVPQRGYHPPSAYYAVSQLRLQGSCFCHGHADRCAPKPGASAGPSTAVQVHDVCVCQHNTAGPNCERCAPFYNNR ${\tt PWRPAEGQDAHECQRCDCNGHSETCHFDPAVFAASQGAYGGVCDNCRDHTEGKNCERCQLHYFRNRRPGASIQET}$ CISCECDPDGAVPGAPCDPVTGQCVCKEHVQGERCDLCKPGFTGLTYANPQGCHRCDCNILGSRRDMPCDEESGR CLCLPNVVGPKCDQCAPYHWKLASGQGCEPCACDPHNSPQPTVQPVHRAVPCREGFGGLMCSAAAIRQCPDRTYG DVATGCRACDCDFRGTEGPGCDKASGRCLCRPGLTGPRCDQCQRGYCNRYPVCVACHPCFQTYDADLREQALRFG ${\tt RLRNATASLWSGPGLEDRGLASRILDAKSKIEQIRAVLSSPAVTEQEVAQVASAILSLRRTLQGLQLDLPLEEET}$ ${\tt LSLPRDLESLDRSFNGLLTMYQRKREQFEKISSADPSGAFRMLSTAYEQSAQAAQQVSDSSRLLDQLRDSRREAE}$ ${\tt RLVRQAGGGGGGGSPKLVALRLEMSSLPDLTPTFNKLCGNSRQMACTPISCPGELCPQDNGTACGSRCRGVLPRA}$ ${\tt GGAFLMAGQVAEQLRGFNAQLQRTRQMIRAAEESASQIQSSAQRLETQVSASRSQMEEDVRRTRLLIQQVRDFLT}$ DPDTDAATIQEVSEAVLALWLPTDSATVLQKMNEIQAIAARLPNVDLVLSQTKQDIARARRLQAEAEEARSRAHA VEGQVEDVVGNLRQGTVALQEAQDTMQGTSRSLRLIQDRVAEVQQVLRPAEKLVTSMTKQLGDFWTRMEELRHQA ${\tt RQQGAEAVQAQQLAEGASEQALSAQEGFERIKQKYAELKDRLGQSSMLGEQGARIQSVKTEAEELFGETMEMMDR}$ ${\tt MKDMELELLRGSQAIMLRSADLTGLEKRVEQIRDHINGRVLYYATCK}$

 ${\tt METVQELIPLAKEMMAQKRKGKMVKLYVLGSVLALFGVVLGLMETVCSPFTAARRLRDQEAAVAELQAALERQALQKQALQEKGKQQDTVLGGRALSNRQHAS}$

CCGCTGGGCGTAGCTGCGACTCGGCGGAGTCCCGGCGGCGCGCTCCTTGTTCTAACCCGGCGCGCCA<u>TG</u>ACCGTCG CGCGGCCGAGCGTGCCCGCGGCGCTGCCCCTCCTCGGGGAGCTGCCCCGGCTGCTGCTGCTGTTGTTGTGCC GTTTTCCCGAGGATACTGTAATAACGTACAAATGTGAAGAAAGCTTTGTGAAAAATTCCTGGCGAGAAGGACTCAG TGATCTGCCTTAAGGGCAGTCAATGGTCAGATATTGAAGAGTTCTGCAATCGTAGCTGCGAGGTGCCAACAAGGC TAAATTCTGCATCCCTCAAACAGCCTTATATCACTCAGAATTATTTTCCAGTCGGTACTGTTGTGGAATATGAGT CAGTCGAATTTTGTAAAAAGAAATCATGCCCTAATCCGGGAGAAATACGAAATGGTCAGATTGATGTACCAGGTG GCATATTATTTGGTGCAACCATCTCCTTCTCATGTAACACAGGGTACAAATTATTTGGCTCGACTTCTAGTTTTT GTCTTATTTCAGGCAGCTCTGTCCAGTGGAGTGACCCGTTGCCAGAGTGCAGAGAAATTTATTGTCCAGCACCAC CACAAATTGACAATGGAATAATTCAAGGGGAACGTGACCATTATGGATATAGACAGTCTGTAACGTATGCATGTA ATAAAGGAŢTCACCATGATTGGAGAGCACTCTATTTATTGTACTGTGAATAATGATGAAGGAGAGTGGAGTGGCC CACCACCTGAATGCAGAGGAAAATCTCTAACTTCCAAGGTCCCACCAACAGTTCAGAAACCTACCACAGTAAATG TTCCAACTACAGAAGTCTCACCAACTTCTCAGAAAAACCACCACAAAAACCACCACACAAATGCTCAAGCAACAC GGAGTACACCTGTTTCCAGGACAACCAAGCATTTTCATGAAACAACCCCAAATAAAGGAAGTGGAACCACTTCAG GTACTACCCGTCTTCTATCTGGGCACACGTGTTTCACGTTGACAGGTTTGCTTGGGACGCTAGTAACCATGGGCT ${\tt TGCTGACT} \underline{{\tt TAG}}{\tt CCAAAGAAGAGATTAAGAAGAAAATACACACAAGTATACAGACTGTTCCTAGTTTCTTAGACTTA}$ TCTGCATATTGGATAAAATAAATGCAATTGTGCTCTTCATTTAGGATGCTTTCATTGTCTTTAAGATGTGTTAGG AATGTCAACAGAGCAAGGAGAAAAAAGGCAGTCCTGGAATCACATTCTTAGCACACCTACACCTCTTGAAAATAG AACAACTTGCAGAATTGAGAGTGATTCCTTTCCTAAAAGTGTAAGAAAGCATAGAGATTTGTTCGTATTTAGAAT GGGATCACGAGGAAAAGAGAAGGAAAGTGATTTTTTTCCACAAGATCTGTAATGTTATTTCCACTTATAAAGGAA ATAAAAATGAAAAACATTATTTGGATATCAAAAGCAAATAAAAACCCAATTCAGTCTCTTCTAAGCAAAATTGC TAAAGAGAGATGAACCACATTATAAAGTAATCTTTGGCTGTAAGGCATTTTCATCTTTCCTTCGGGTTGGCAAAA TATTTTAAAGGTAAAACATGCTGGTGAACCAGGGGTGTTGATGGTGATAAGGGAAGAATATAGAATGAAAGACTG AATCTTCCTTTGTTGCACAAATAGAGTTTGGAAAAAGCCTGTGAAAGGTGTCTTCTTTGACTTAATGTCTTTAAA AGTATCCAGAGATACTACAATATTAACATAAGAAAAGATTATATTATTTCTGAATCGAGATGTCCATAGTCAA GT.

MTVARPSVPAALPLLGELPRLLLVLLCLPAVWGDCGLPPDVPNAQPALEGRTSFPEDTVITYKCEESFVKIPGE KDSVICLKGSQWSDIEEFCNRSCEVPTRLNSASLKQPYITQNYFPVGTVVEYECRPGYRREPSLSPKLTCLQNLK WSTAVEFCKKKSCPNPGEIRNGQIDVPGGILFGATISFSCNTGYKLFGSTSSFCLISGSSVQWSDPLPECREIYC PAPPQIDNGIIQGERDHYGYRQSVTYACNKGFTMIGEHSIYCTVNNDEGEWSGPPPECRGKSLTSKVPPTVQKPT TVNVPTTEVSPTSQKTTTKTTTPNAQATRSTPVSRTTKHFHETTPNKGSGTTSGTTRLLSGHTCFTLTGLLGTLV TMGLLT

601/6881 FIGURE 560A

GTGGATTTGGTCGTCTCCCTGATTCCGAGCTGCGGGCAGGGAGAGGGGCCTCGCGCCCCTCAGCAGCCGGCGG CGGCCGAGGTAGACCGAGCGGGACGGAAGGACAGACCGACGTCGCCGAGCTGGAATCATGTGAGGGCCAACCGG GGAAGGTGGAGCAGATGAGCACACAGGAGCCGTCTCCTCACCGCCGCCCCTCTCAGCATGGAACAGAGGCGGC CCTGGCCCCGGGCCCTGGAGGTGGACAGCCGCTCTGTGGTCCTGCTCTCAGTGGTCTGGGTGCTGCTGGCCCCCC CAGCAGCCGGCATGCCTCAGTTCAGCACCTTCCACTCTGAGAATCGTGACCTGGACCTTCAACCACTTGACCGTCC ACCAAGGGACGGGGCCGTCTATGTGGGGGCCATCAACCGGGTCTATAAGCTGACAGGCAACCTGACCATCCAGG TGGCTCATAAGACAGGGCCAGAAGAGGACAACAAGTCTTGTTACCCGCCCCTCATCGTGCAGCCCTGCAGCGAAG TGCTCACCCTCACCAACAATGTCAACAAGCTGCTCATCATTGACTACTCTGAGAACCGCCTGCTGGCCTGTGGGA GCCTCTACCAGGGGGTCTGCAAGCTGCTGCGGCTGGATGACCTCTTCATCCTGGTGGAGCCATCCCACAAGAAGG AGCACTACCTGTCCAGTGTCAACAAGACGGGCACCATGTACGGGGTGATTGTGCGCTCTGAGGGTGAGGATGGCA AGCTCTTCATCGGCACGGCTGTGGATGGGAAGCAGGATTACTTCCCGACCCTGTCCAGCCGGAAGCTGCCCCGAG ACCCTGAGTCCTCAGCCATGCTCGACTATGAGCTACACAGCGATTTTGTCTCCTCTCTCATCAAGATCCCTTCAG ACACCCTGGCCCTGGTCTCCCACTTTGACATCTTCTACATCTACGGCTTTGCTAGTGGGGGGCTTTGTCTACTTTC TCACTGTCCAGCCCGAGACCCCTGAGGGTGTGGCCATCAACTCCGCTGGAGACCTCTTCTACACCTCACGCATCG TGCGGCTCTGCAAGGATGACCCCAAGTTCCACTCATACGTGTCCCTGCCCTTCGGCTGCACCCGGGCCGGGGTGG AATACCGCCTCCTGCAGGCTGCTTACCTGGCCAAGCCTGGGGACTCACTGGCCCAGGCCTTCAATATCACCAGCC GTGCCTTCCCTATCCGGGCCATCAACTTGCAGATCAAGGAGCGCCTGCAGTCCTGCTACCAGGGCGAGGGCAACC TGGAGCTCAACTGGCTGCTGGGGAAGGACGTCCAGTGCACCAAGGCGCCTGTCCCCATCGATGATAACTTCTGTG GACTGGACATCAACCAGCCCTGGGAGGCTCAACTCCAGTGGAGGCCTGACCCTGTACACCACCAGCAGGGACC GCATGACCTCTGTGGCCTCCTACGTTTACAACGGCTACAGCGTGGTTTTTGTGGGGACTAAGAGTGGCAAGCTGA AAAAGATTCGGGCCGACGGTCCCCCCATGGTGGGGTCCAGTACGAGATGGTCTCTGTGCTCAAGGACGGAAGCC CCATCCTCCGGGACATGGCCTTCTCCATTGATCAGCGCTACCTGTACGTCATGTCTGAGAGACAGGTCACCAGGG TCCCCGTGGAGTCATGTGAGCAGTATACGACTTGTGGGGAGTGCCTGAGCTCTGGGGACCCTCACTGTGGCTGGT GTGCCCTGCACAACATGTGCTCCCGCAGGGACAAATGCCAACAGGCCTGGGAACCTAATCGATTTGCTGCCAGCA TCAGCCAGTGTGTGAGCCTTGCAGTGCATCCCAGCAGCATCTCAGTATCTGAGCACAGCCGGTTGCTTAGCCTGG TAGTGAGTGATGCTCCTGATCTATCTGCGGGTATCGCCTGTGCCTTTGGGAACCTGACAGAGGTGGAGGGGCAGG TGTCCGGGAGCCAGGTCATCTGCATCTCACCTGGGCCCAAGGATGTCCCTGTCATCCCGCTGGATCAAGACTGGT TTGGGCTGGAGCTACAGCTGAGGTCCAAGGAGACAGGGAAGATATTTGTCAGCACCGAGTTCAAGTTTTACAACT GCAGTGCCCACCAACTGTGCCTGTCCTGTCAACAGCGCCTTCCGCTGCCATTGGTGCAAGTACCGCAACCTCT GCACTCATGACCCCACCACCTGCTCCTTCCAGGAGGGCCGGATCAATATTTCAGAGGACTGTCCCCAGCTGGTGC CCACAGAGGAGATCTTGATTCCAGTCGGGGAGGTAAAGCCAATCACCCTTAAGGCGCGAAATCTGCCCCAGCCGC AGTCCGGCCAGCGAGGCTATGAGTGTGTCCTCAACATACAAGGAGCCATCCACCGGGTCCCCGCTCTGCGCTTCA ACAGCTCCAGCGTTCAGTGTCAGAACAGCTCGTACCAGTATGATGGCATGGACATCAGCAATCTGGCCGTGGATT TCGCTGTGGTGGGAACGGCAATTTCATCATTGACAACCCTCAGGACCTGAAAGTCCATCTCTACAAGTGTGCAG CCCAGCGGGAGAGCTGCGGCCTCTGCCTCAAGGCCGACCGGAAGTTTGAGTGTGGCTGGTGCAGCGGCGAGCGCA GGTGCACCCTCCACCAGCACTGTACCAGCCCTTCCAGCCCCTGGCTCGACTGGTCCAGCCACAATGTCAAGTGCT TGAACCTGGGTCTGGACTTCTCCGAGATCGCCCACCATGTGCAGGTGGCTGGGGTGCCCTGCACGCCCCTCCCAG GGGAATACATCATCGCTGAGCAGATTGTCTGTGAGATGGGCCATGCCCTCGTGGGAACCACCTCCGGGCCAGTAC GCCTGTGTATTGGCGAGTGTAAGCCAGAGTTCATGACGAAGTCCCATCAGCAGTACACCTTCGTGAACCCTTCTG TGCTGTCACTCAACCCAATCCGAGGTCCCGAGTCAGGAGGCACTATGGTGACCATTACCGGCCATTACCTTGGGG GTGTCTCACCCCCATCATCCAATGGCCTTGGCCCGGTCCCTGTTTCTGTGAGTGTCGACCGAGCCCATGTGGATA GCAACCTGCAGTTTGAGTACATAGATGACCCTCGGGTCCAGCGCATCGAGCCAGAGTGGAGCATTGCCAGTGGCC ACACACCCCTGACCATCACAGGCTTCAACCTGGATGTCATTCAGGAGCCAAGGATCCGAGTCAAATTCAATGGCA ACCGCCCTGGCCTGGACACTGTGGAACGCCCAGATGAGTTTGGATTTGTCTTTAACAATGTCCAATCCTTGCTAA

FIGURE 560B

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TTTACAACGACACCAAGTTTATCTACTACCCCAACCCGACCTTTGAACTGCTTAGCCCTACTGGAGTCTTGGATC AAAAGCCAGGATCGCCCATCATTCTGAAGGGCAAAAACCTCTGCCCTCCTGCCTCTGGAGGGGCCCAAACTCAACT ACACTGTGCTCATCGGAGAGACCCCTTGTGCTGTCACCGTATCTGAGACCCAGCTTCTCTGCGAGCCTCCCAACC TCACCGGGCAGCACAAGGTCATGGTTCACGTGGGCGGGATGGTGTTCTCGCCTGGCTCGGTGAGTGTCATCTCAG ACAGCTTGCTGACCCTGCCAGCCATCGTCAGCATCGCGGCGGCGGCAGCCTCCTCCTCATCATCGTCATCATCG TCCTCATTGCCTACAAGCGCAAGTCTCGAGAAAATGACCTCACTCTCAAGCGGCTGCAAATGCAGATGGACAATC TGGAGTCCCGTGTGGCCTTGGAGTGCAAGGAAGCTTTTGCTGAGCTCCAGACGGATATCAATGAGTTGACCAGTG ACCTGGACCGCTCAGGAATCCCTTACCTGGACTATCGTACCTACGCTATGCGAGTCCTGTTCCCGGGCATCGAGG ACCACCCCGTCCTGCGGGAGCTGGAGGTACAAGGAAACGGGCAGCACGTGGAGAAGGCCCTGAAGCTCTTTG CCCAGCTCATCAACAACAAGGTGTTCCTGCTGACCTTCATCCGCACCCTGGAGCTGCAGCGCAGTTTCTCCATGC GCGACCGGGGCAACGTGGCTTCGCTCATCATGACCGGCCTGCAGGGCCGCCTGGAATATGCCACTGATGTCCTCA AGCAGCTGCTCTCTGACCTCATCGATAAGAACCTGGAGAACAAGAACCACCCCAAGCTGCTACTCCGGAGGACAG AGTCTGTGGCTGAAAAGATGCTGACCAATTGGTTCGCCTTCCTCCTGCACAAGTTCCTAAAGGAGTGCGCAGGGG AGCCACTCTTCATGCTATACTGTGCCATCAAGCAGCÄGATGGAGAAGGGCCCCATTGATGCCATCACGGGCGAGG CCCGCTACTCCCTGAGCGAGGACAAGCTCATCCGGCAGCAGATCGAGTACAAGACCCTGATCCTGAACTGCGTCA ACCCTGACAACGAGAACAGTCCAGAGATCCCAGTGAAGGTGTTAAACTGTGACACCATCACACAGGTCAAGGAGA AGATTCTTGATGCCGTGTATAAGAATGTGCCCTATTCCCAGCGGCCGAGGGCAGTGGACATGGACTTGGAGTGGC GCCAAGGCCGGATCGCCCGGGTCGTGCTGCAAGATGAGGACATCACCACCAAGATTGAGGGTGACTGGAAGCGGC TCAACACACTGATGCATTATCAGGTGTCAGACAGGTCGGTGGTGGCTCTGGTCCCCAAACAGACCTCCTACA ACATCCCTGCCTCTGCCAGCATCTCCCGGACGTCCATCAGCAGATACGGTGACTCCTCCTTCAGGTATACGGGCA GCCCCGACAGCCTGCGGTCCCGGGCCCCGATGATCACCCCAGACCTGGAAAGTGGGGTCAAGGTGTGGCATCTGG TGAAGAACCATGACCACGGTGACCAGAAGGAGGGTGACCGGGGCAGCAAGATGGTGTCCGAGATCTACCTGACCC GGCTACTGGCCACCAAGGGCACCCTGCAGAAGTTTGTGGACGACTTGTTTGAGACCTTGTTCAGCACTGTGCACC CCAGCTACAAGAGCTGGGTGGAGAGATACTACGCAGACATCGCCAAGCTCCCAGCCATCAGTGACCAGGACATGA ATGCCTACCTCGCCGAGCAGTCCCGCCTGCACGCCGTGGAGTTCAACATGCTGAGTGCCCTCAATGAGATCTACT CCTATGTCAGCAAGTATAGTGAGGAGCTCATCGGGGCCCTAGAGCAGGATGAGCAGGCACGGCGGCAGCGGCTGG CTTATAAGGTGGAGCAGCTCATTAATGCCATGTCCATTGAGAGCTGAGAGGAGGAGCCTCGCATTCCTGGGAAGA GGGACCTGTCCAAGCTGTCACACTGGGAGTCTCAGATGGAAGGACAAGTGATGGGGATCAGGCCCCAGAGCTTGC TCCAGCTGGGAGAGACAGTGGGCGTCGTCCATCCTCAGTGAGAACACCAGAGAACCCGGGGCCGGGAGAAGGTGG TTCTTCAAGCCGAGAGGCACGAGCTGGGGACAGTTCTGCCTCTGTGACTGCTTTGCATGAAAACTCATTTGA TGTATATTGGGGAAATAATGAGAACTTTATTTAATTTTTTAAGAAAAAGGGAAAAAAACAGAAATAAAACAAAA

 ${\tt MTNTKGKRRGTQYMFSRPFRKHGVVALATYMQIYKKGDIVDIKGMGTVQKGMPHKCYHGKTGRVYNVPQHAVGIV} \\ {\tt VNTQVKGKILAKRINVRIEHIKHSKS}$

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606/6881 FIGURE 564

 $\label{thm:local} {\tt MKLLSLVAVVGCLLVPPAEANKSSEDIRCKCICPPYRNISGHIYNQNVSQKDCNCLHVVEPMPVPGHDVEAYCLL} \\ {\tt CECRYEERSTTTIKVIIVIYLSVVGALLLYMAFLMLVDPLIRKPDAYTEQLHNEEENEDARSMAAAAASLGGPRA} \\ {\tt NTVLERVEGAQQRWKLQVQEQRKTVFDRHKMLS} \\$

CCAGCCTTGCCCGGCAGAGGACTCTGGAGGATGAGGAGGAACAGGAGCGCGCGAXGGCGGCGCACCGCAACCTG AGCTCCACCACGGACGATGAGGCTCCCAGGCTCAGCAGAATGGAGACCGGCAGCCTCTGCTTCTGAGAGACTACC GAGCGTGGAAGAAGCAGAGGTGCCCAAGCCACTGCCCCCAGCCTCCAAAGATGAGGACGACGAGACATCCAGAGCAT GGAGGCAGAGGAGGGGGAGCACAGCTTGAGCCCTGTGCAGGCCACACAGAAACCCCTAGTCTCCAAGAAGGAACT GGAAATCCCACCTCGCCGGAGACTGAGTCGGGAACAGCGGGGCCCCTGCGCTGGAGGAGGAGAGCTTGGTGGGCA GGGAGCCAGAAGAGGGGAAGAAAGGGGTTCCAGAAAAGTCCCCAGTCTTGGAGAAATCCTCCATGCCAAAGAAGA CGGCACCTGAAAAGAGCCTGGTCTCCGATAAAACCTCCATCTCTGAGAAGGTGCTGGCCTCAGAGAAGACATCTC TATCAGAGAAGATAGCAGTGTCAGAGAAAAGAACAGCTCAGAGAAGAAGTCTGTTCTAGAAAAAAACCAGTGTCT AGAAGGCACTGGCCTCAGAGAAGAGCCCAACTGCAGATGCTAAGCCGGCCCCAAAGAGGCCACAGCCTCAGAGCA GCCCCTGGCGCAGGAGCCGCCAGCCTCTGGGGGAAGCCCAGCCACCAAGGAGCAGAGAGGAAGGGCCCTCCC CACACTCCAGGTGAAAATCCCCAGCAAGGAGGAAGAGGCAGATATGTCCTCACCCACACAGCGAACCTACAGCAG AACTCGCAGTGCCAGCATGAAGCTCCCAGACAACACAGTGAAGTTGGGAGAGAAGCTGGAGAGATACCACACGGC CATACGGAGATCAGAATCTGTCAAGTCTCGGGGTCTGCCTTGCACTGAGTTATTCGTGGCTCCTGTGGGTGTAGC CAGCAAGCGCCACCTCTTTGAGAAGGAACTGGCGGGCCAGAGCCGAGCAGACCAGCCTCCAGCCGGAAGGAGAA CTTGAGGCTCTCAGGGGTTGTGACATCAAGGCTCAACCTGTGGATCAGCAGGACCCAGGAATCTGGAGATCAGGA CCCCCAGGAGGCACAGAAAGCATCATCTGCAACCGAGAGGACTCAGTGGGGACAGAAATCTGACTCCTCGCTGGA CTGCCTCTCACAGCAGCACCCTTTCCTCTCATTGTCCCTGTTCCCTTTTTGCCTGTGGATCTGTTTGGCCAGGGT CCCTGGGGTCAGGAATATTTGCAAGACTCAGCCAGCTCCTTCCCAGCCCAGCCTCTTGGGGCTGGGACTTTCTCA $\verb|CCCTGCGGCAGGCACAACAGATGCTGGGACCCAGTCTCTGCCCAGGTCACAGCACAAGTGCACATCAGCACTATG| \\$ GGGCCTATGTCCTGCCCAGAGACCTCTGCTCCTTCCTGCTCACATCCACAGTCAGGGCACGGCGCCCCTCAAGAA $\tt CTCCAGAGTCACCTGTCTCATCGGCTCCCAGCAAGTGCCTCTTTGTCTATGATGTCCCCCTTCTCTGAGGCCTGG$ ACCCACCATCTTTGTCCCTGGGGCCTGCTCCCAGCCACTGAGGCCCGCTCTGGCCAGGGGAGAAGGAGCTGCCG TGCGTCTTCCCTGTGCCCCGTCTCCCTGCTTGGTTCTCCCCTCCCTTCCCTGGCCGGCTGCCATGGCCAGGAGCT TACTCTCAGGTGTAAGAGACTGATGAGACCTTAGAAGCGAATTCCTCTCTGGAGGCCTTGCTTTCTAGCAGAGTC ACCTGAGTGTGTGAGGAGGATCATCTTTCCTCATCCCCCCTCTTCTCACATTAAGGTGGTGGCTTGCCACTC AGCAGTCCTAGCTTGGTGACTGGGAACTGCCACATACAGGGCCAGGCCTACCCTCCTTCCCCACAAGCCCCCTCC AACCCCCACCCCATGCTCTGGACCTCATGGCTCCTATGAGCTTGGAGCATGGTGAACCATCAGAGAATCTAGAA CCAACCAAGCTAGGAACATCAGCCTGGTGCCTGTTAACCCCTTAAAGCTGTGGTTTACAACTTTTCAAAAATTTA **AATCATTAG**

ATTCAAGGCCTGGGGGAGCTGCGGTTCCGAGAAGCGGCAGACGGCAGAAGGCTTGGGCTGTTGAGTAAGCA CCAGGGGAGCAAGAGAACGGGGGGGGGGGGGGGCTCACGGCCTAGGGAGGCGCGGAGGCATCTGGCAGAGGCGGG GGGGCACCGACACCTCACCGGCAGCCGGGTGCTGAGGGCCGCGGTGTGGGTGCGCGGAGCAGTCAGGGCGCA GGTGGGCAGCGCCACGCCTGCCAGCCCGGGGCCCCAGAATCCTGCGCTGCGGGGCCGAGAGGGGCCCCGCGCCC CGCCGCAGCCTGGAGCTTTCCGCGAACCTCGGGGCGCCCCATGACGGCGGCGGCGACGGCTACCGTGCTCAAGGAG GGCGTGCTGGAGAAGCGCAGCGGGGCTGCTGCAGCTGTGGAAGCGGAAGCGCTGCGTCCTCACCGAACGCGGG CTGCAGCTCTTCGAGGCCAAGGGCACGGGCCGGCCCAAGGAGCTCAGCTTCGCCCGCATCAAGGCCGTGGAG TGCGTGGAGAGCACCGGGCGCCACATCTACTTCACGCTGGTGACCGAAGGGGGCGGCGAGATCGACTTCCGCTGC CCCCTGGAAGATCCCGGCTGGAACGCCCAGATCACCCTAGGCCTGGTCAAGTTCAAGAACCAGCAGGCCATCCAG ACAGTGCGGGCCCGGCAGAGCCTCGGGACCCTCGTGTCCTAAACCACCGGGCGCACCATCTTTCCTTCA TGCTACCCACCTCAGTGCTGAGGTCAAGGCAGCTTCGTTGTTCCCTCTGGCTTGTGGGGGGCACGGCTGTGCT CCATGTGGCAAGGTGGAAGGAATGGACGAGCCCTGGGAGGAGGGCAGAAGGCTACGCAGGGCTGAGGATGAAGAT GCAGCCCTGGATGGTCCCAGACTCTCAGGACATGCCCAGCTCAGGGGCTTCGAGCCACAGGCCTGGCCTCATAT GGCATGAGGGGGAGCTGGCATAGGAGCCCCCTCCCTGCTGTGGTCCTGCCCTCTGTCCTGCAGACTGCTCTTAGC CCCCTGGCTTTGTGCCAGGCCTGGAGGAGGGCAGTCCCCCATGGGGTGCCGAGCCAACGCCTCAGGAATCAGGAG GCCAGCCTGGTACCAAAAGGAGTACCCAGGGCCTGGTACCCAGGCCCACTCCAGAATGGCCTCTGGACTCACCTT GAGAAGGGGGAGCTGCTGGGCCTAAAGCCCACTCCTGGGGGTCTCCTGCTTAGGTCCTTTTGGGACCCCCAC CCATCCAGGCCCTTTCTTTGCACACTTCTTCCCCCACCTCTACGCATCTTCCCCCCACTGCGGTGTTCGGCCTGA AGGTGGTGGGGGTGAGGGGGGGTTTGGCCATTAGCATTTCATGTCTTTCCCCAA

ATGCCGCCGCCGCCGCCGCTCCCGGCCTCCCGGCTCCAGTGCCACAGGATTAAAGGAAGCGTTA CTGGCATCAGTCATCTTGAAACAATATGTGGAGACTCACTGGTGTGCCCAATCAGAGAAATTTAGGCCTCCTGAA ACTACAGAAAGGGCAAAAATTGTTATCCGGGAGCTATTGCCTAATGGGTTGAGAGAATCGATAAGCAAAGTGCGC TCCAGTGTGGCCTATGCAGTGTCAGCCATTGCCCACTGGGACTGGCCTGAAGCTTGGCCCCAACTCTTCAACCTG CTCATGGAGATGTTGGTGAGCGGAGACTTAAATGCCGTCCATGGAGCCATGCGTGTGCTGACAGAATTCACTCGT GAAGTTACAGACACAGATGCCACTTGTTGCTCCTGTCATTCTCCCAGAGATGTATAAGATCTTCACCATGGCT GAGGTGTATGGTATTCGAACCCGTTCCCGAGCCGTGGAGATTTTTACCACTTGTGCCCATATGATCTGTAACATG GAGGAGCTGGAAAAGGGTGCAGCCAAAGTCCTGATCTTTCCCGTGGTACAGCAGTTCACAGAGGCCTTTGTTCAG GCCCTCCAGATACCAGATGGCCCCACATCTGACAGTGGGTTTTAAGATGGAGGTCCTAAAGGCAGTGACAGCCCTA GTGAAAAACTTCCCAAAGCACATGGTGTCCTCCATGCAGCAGATTCTGCCTATTGTTTGGAACACCCTAACCGAG AGTGCAGCTTTTTATGTGAGGACAGAAGTAAATTACACAGAAGAAGTAGAAGATCCTGTGGATTCTGATGGTGAA GTCCTGGGCTTTGAAAATCTCGTCTTTAGCATTTTTGAATTTGTCCATGCTCTACTAGAAAATAGCAAATTCAAA AGCACTGTTAAGAAAGCCTTGCCTGAATTGATTTATTATTATTATCCTGTACATGCAAATCACTGAGGAGCAGATT AAAGTATGGACAGCCAACCCCCAACAATTTGTAGAAGATGAAGATGATGATACATTCTCCTATACTGTTAGAATA GCAGCTCAAGACTTGTTGCTGGCTGTGGCCACAGATTTCCAGAATGAAAGTGCAGCCCTGGCTGCTGCAGCC ACTCGACATTTACAAGAAGCTGAGCAAACCAAAAACAGTGGCACTGAGCACTGGTGGAAGATCCATGAGGCATGC ATGCTTGCCCTAGGCTCAGTGAAGGCCATCATCACTGACAGTGTGAAAAATGGCAGGATTCATTTTGACATGCAT GGGTTCCTGACCAATGTCATCCTTGCAGACCTCAACCTCTCAGTGTCTCCTTTTCCTCTTGGGCCGGGCACTTTGG GCTGCCAGTCGGTTCACTGTTGCTATGTCCCCTGAACTGATCCAGCAGTTCCTACAGGCAACAGTTAGTGGTCTT CACGAGACACAGCCCCCATCAGTTCGAATTTCTGCAGTGAGAGCCATCTGGGGTTATTGTGACCAACTGAAAGTC TCAGAGAGTACCCACGTGCTCCAGCCCTTCCTCCCCAGCATCCTTGATGGCTTAATTCACCTAGCAGCCCAGTTC AGCTCAGAGGTCCTCAACCTGGTGATGGAGACCCTGTGCATCGTTTGTACAGTAGACCCCGAATTCACAGCAAGC ATGGAAAGCAAAATCTGCCCCTTCACCATCGCCATTTTCCTAAAGTACAGTAATGATCCCGTCGTCGCCTCACTG GCTCAGGACATCTTCAAGGAGCTGTCCCAGATTGAAGCCTGTCAGGGCCCAATGCAAATGAGGCTGATTCCCACT CTGGTCAGCATAATGCAGGCCCCAGCAGACAAGATTCCTGCAGGGCTTTGTGCGACAGCCATTGATATCCTGACA ACAGTAGTACGAAATACAAAGCCTCCCCTTTCCCAGCTTCTCATCTGCCAAGCTTTCCCTGCTGTGGCACAGTGT ACCCTTCACACAGATGACAATGCCACCATGCAGAATGGCGGAGAGTGCTTGCGGGCCTATGTGTCAGTGACCCTG GAACAAGTAGCCCAGTGGCATGATGAGCAGGCCACAATGGACTGTGGTATGTGATGCAAGTGGTGAGCCAGCTC CTGGACCCCGCACCTCAGAGTTCACTGCGGCCTTTGTGGGCCGCCTTGTTTCCACCCTCATCTCCAAGGCAGGG GTCATGCAGTCCCTGATCATGGTGTTCGCTCATCTGGTGCACACTCAGCTAGAACCTCTCTTGGAGTTCCTGTGT AGCCTCCCAGGACCTACTGCCAAACCTGCTCTAGAGTTTGTGATGGCTGAGTGGACAAGCCGACAGCACCTGTTC TATGGACAGTATGAAGGCAAAGTCAGCTCTGTGGCACTCTGTAAGCTGCTCCAGCATGGCATCAATGCAGATGAC AAACGGCTACAGGATATCCGTGTGAAGGGAGAGGAGATCTACAGCATGGATGAGGGCATCCGCACCCGCTCTAAG TCAGCCAAAAACCCAGAACGCTGGACAAACATTCCTTTGCTGGTCAAGATCCTAAAGCTGATCATCAACGAGCTC TCCAACGTCATGGAGGCTAATGCCGCTCGCCAGGCCACTCCTGCAGAGTGGAGTCAAGATGACTCCAATGATATG TGGGAGGACCAGGAGGAGGAGGAGGAGGAGGAGGATGGTTTAGCTGGCCAACTTTTATCTGACATTCTTGCT ACAAGTAAATATGAGGAGGATTACTACGAGGATGATGAGGAAGATGACCCTGATGCCCTGAAGGATCCTCTCTAT CAGATTGATCTGCAGGCATATCTCACAGATTTCCTCTGCCAGTTTGCTCAGCAGCCCTGCTACATAATGTTTTCA GGCCACCTTAATGACAATGAGAGGCGAGTTCTACAGACCATCGGCATCTAA

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AGTCAAGATGGAGGAGTACGCGCGAGAGCCTTGCCCATGGCGAATTGTGGATGACTGTGGTGGGGGCCTTTACGAT GGGTACCATTGGTGGTGGTATCTTTCAAGCAATCAAAGGTTTTCGCAATTCTCCAGTGGGAGTAAACCACAGACT ACGAGGGAGTTTGACAGCTATTAAAACCAGGGCTCCACAGTTAGGAGGTAGCTTTGCAGTTTGGGGAGGGCTGTT TTCCATGATTGACTGTAGTATGGTTCAAGTCAGAGGAAAGGAAGATCCCTGGAACTCCATCACAAGTGGTGCCTT AACGGGAGCCATACTGGCAGCAAGAAATGGACCAGTGGCCATGGTTGGGTCAGCCGCAATGGGTGGCATTCTCCT AGCTTTAATTGAAGGAGCTGGTATCTTGTTGACAAGATTTGCCTCTGCACAGTTTCCCAATGGTCCTCAGTTTGC ${\tt AGAAGACCCCTCCCAGTTGCCTTCAACTCAGTTACCTTCCTCACCTTTTGGAGACTATCGACAATATCAG\underline{{\bf TAG}}{\tt GA}$ CTTCTTTCCTAGGATTTCTTTAACAGAACGAGTTGTGGTTCGAGAAGGATTTCAGAAGATCAAGTTACAGTCTGT TTTTAAAACCATAGGTGGGACAGCTATGGCCAATAGGCTATAAAGAGACATTTAGCACTTTTTTCTATTTAAAGG TGTTTAAATCGCTAAAGGAAAATACAGTAAGTGCTTGAAAGATGAAGGACCAAAAAGGCCAAAAAAACAGTGAAATA TGATCATCATCTCTTGCGGACTTCTCTGCCTGGTTTTGTGTGTTCTGTTATTCAAACAATAAAAAGCTGGTGGAA CTTACTCTTTCTTTAAGATAAGTTGTAGACTTCGATGTTTCATGCTCATGTACTTCAAATAATGCATGTTTTAT AGTTAGTCCCTCATCACTTGAAGTGACTTCTGAGAATTATGCAGAGTCAACATGGATCATTTCACAGTGAGATGC TTTATGGATTGAAGGATATGGTAAAATGTTTATAGTTTACTTTGAAAGTAAAATATACTATGTCTTGGTTTTGAG GATATTGGATACAAAACTCTCTTCCTTTAGGGCTACTGAGTCTTGATTCCTGATCATCAGAAATTTCACCAGAAA CAACTTGCTTCCAATATACCCAATTCTATATGAAGAATTCATGGAGAGTGTACTGGCACTGGAAGAGTTTAGTGT TTCTTGTATGCTTGAAAATAAAGTATGTACTGTTTTGAATGTGTTCCAAGTCCTCTGCATAAACGATGTATTTTG GGGTCTGGTTGGGCCTGGAAAATGGATGAGCACTTCAGAACAGGTCATTTTCCTGATATTGGAAGTGACATGTGG CCCTATAGGAGGCATGATGTTAGTTAATTACACATTTGCCTACATCTGTGGGAAAATGGAGAACAAAGCCATGTGG

MEEYAREPCPWRIVDDCGGAFTMGTIGGGIFQAIKGFRNSPVGVNHRLRGSLTAIKTRAPQLGGSFAVWGGLFSM IDCSMVQVRGKEDPWNSITSGALTGAILAARNGPVAMVGSAAMGGILLALIEGAGILLTRFASAQFPNGPQFAED PSQLPSTQLPSSPFGDYRQYQ WO 2004/030615 PCT/US2003/028547

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TCCAGGGCCCGGCGCAGGGAGCCGGGGCTGAGCGGCACCGCGGTCCTGGACCTGCGCTGCCTGGAGCCCGAGGG CTCGGAGGAGCCGCCTGCGGAGCCCGTGAGCTTCTACACGCAGCCCTTCTCGCACTATGGCCAGGCCCTGTGCGT GGTTTGCTGGTTGGCTCCCGAGCAGACAGCAGGAAAGAAGAAGCCCTTCGTGTACACCCAGGGCCAGGCTGTCCT AAACCGGGCCTTCTTCCCTTGCTTCGACACGCCTGCTGTTAAATACAAGTATTCAGCTCTTATTGAGGTCCCAGA TGGCTTCACAGCTGTGATGAGTGCTAGCACCTGGGAGAAGAGAGGTCCAAATAAGTTCTTCCTCCAGATGTGTCA GCCCATCCCTCCTATCTGATAGCTTTGGCCATCGGAGATCTGGTTTCGGCTGAAGTTGGACCCAGGAGCCGGGT GTGGGCTGAGCCCTGATTGATGCTGCCAAGGAGGAGTACAACGGGGTGATAGAAGAATTTTTGGCAACAGG AGAGAAGCTTTTTGGACCTTATGTTTGGGGAAGGTATGACTTGCTCTTCATGCCACCGTCCTTTCCATTTGGAGG CCATGAGATCTCCCACAGTTGGTTTGGGAACCTGGTCACCAACGCCAACTGGGGTGAATTCTGGCTCAATGAAGG GGGGCGGGCTCTGCTGCGCACACACGGACATCACTGGAGAGGAAAACCCACTCAACAAGCTCCGCGTGAAGAT TGAACCAGGCGTTGACCCGGACGACACCTATAATGAGACCCCCTACGAGAAAGGTTTCTGCTTTGTTTCATACCT GGCCCACTTGGTGGGTGATCAGGATCAGTTTGACAGTTTTCTCAAGGCCTATGTGCATGAATTCAAATTCCGAAG TCCAGGTTTTGAGTTTGATCGATGGCTGAATACCCCCGGCTGGCCCCCGTACCTCCCTGATCTCCCCTGGGGA CTCACTCATGAAGCCTGCTGAAGAGCTAGCCCAACTGTGGGCAGCCGAGGAGCTGGACATGAAGGCCATTGAAGC TCCTGGGAATGTGAAAAAACTTGGAGACACATACCCAAGTATCTCAAATGCCCGGAATGCAGAGCTCCGGCTGCG ATGGGGCCAAATCGTCCTTAAGAACGACCACCAGGAAGATTTCTGGAAAGTGAAGGAGTTCCTGCATAACCAGGG GAAGCAGAAGTATACACTTCCGCTGTACCACGCAATGATGGGTGGCAGTGAGGTGGCCCAGACCCTCGCCAAGGA GACTTTTGCATCCACCGCCTCCCAGCTCCACAGCAATGTTGTCAACTATGTCCAGCAGATCGTGGCACCCAAGGG TTCCTGTTCCCTGATCAACTTCCTGGAGTTTATATCCCCTCAGGATAATCTATTCTCTAGCTTAGGTATCTGTGA $\tt CTCTTGGGCCTCTGGTGGGGAACTTACTTCTCTATAGCCCACTGAGCCCCGAGACAGAGAACCTGCCCACA$ GCTCTCCCCGCTACAGGCTGCAGGCACTGCAGGGCAGCGGGTATTCTCCTCCCCACCTAAGTCTCTGGGAAGAAG TGGAGAGGACTGATGCTCTTTTTTTCTCTTTCTGTCCTTTTTCTTGCTGATTTTATGCAAAGGGCTGGCATTC TGATTGTTCTTTTTCAGGTTTAATCCTTATTTTAATAAAGTTTTCAAGCAAAAATT

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AISPWKTYQLVYFLDKILQKSPLPPGNVKKLGDTYPSISNARNAELRLRWGQIVLKNDHQEDFWKVKEFLHNQGK
QKYTLPLYHAMMGGSEVAQTLAKETFASTASQLHSNVVNYVQQIVAPKGS

AGGCTCTATTTAGAGCCGGGTAGGGGAGCGCAGCGGCCAGATACCTCAGCGCTACCTGGCGGAACTGGATTTCTC TCCCGCCTGCCGGCCTGCCACAGCCGGACTCCGCCACTCCGGTAGGATTCCCCGCCTGTCATTCCCTAGCC CAGCTCTTGGGAAACTGCAGAGGGGTCCAGAGGATTTGCAGTTCTGAACCTGCACACTCCAGTCTAGGATCTCCG AGCAAGAGCGTAGCCTCATGGCTGCAACCTGTGAGATTAGCAACATTTTTAGCAACTACTTCAGTGCGATGTACA GCTCGGAGGACTCCACCCTGGCCTCTGTTCCCCCTGCTGCCACCTTTGGGGCCGATGACTTGGTACTGACCCTGA GCAACCCCCAGATGTCATTGGAGGGTACAGAGAGAGGCCAGCTGGTTGGGGGAACAGCCCCAGTTCTGGTCGAAGA CGCAGGTTCTGGACTGGATCAGCTACCAAGTGGAGAAGAACAAGTACGACGCAAGCGCCATTGACTTCTCACGAT GTGACATGGATGGCGCCACCCTCTGCAATTGTGCCCTTGAGGAGCTGCGTCTGGTCTTTGGGCCTCTGGGGGACC AACTCCATGCCCAGCTGCGAGACCTCACTTCCAGCTCTTCTGATGAGCTCAGTTGGATCATTGAGCTGCTGGAGA AGGATGGCATGGCCTTCCAGGAGGCCCTAGACCCAGGGCCCTTTGACCAGGGCAGCCCCTTTGCCCAGGAGCTGC TGGACGACGGTCAGCAAGCCAGCCCTACCACCCCGGCAGCTGTGGCGCAGGAGCCCCCTCCCCCGGCAGCTCTG ACGTCTCCACCGCAGGGACTGGTGCTTCTCGGAGCTCCCACTCCTCAGACTCCGGTGGAAGTGACGTGGACCTGG ATCCCACTGATGGCAAGCTCTTCCCCAGCGATGGTTTTCGTGACTGCAAGAAGGGGGGATCCCAAGCACGGGAAGC CCAGAGGCACCCACCTGTGGGAGTTCATCCGGGACATCCTCATCCACCCGGAGCTCAACGAGGGCCTCATGAAGT GGGAGAATCGGCATGAAGGCGTCTTCAAGTTCCTGCGCTCCGAGGCTGTGGCCCAACTATGGGGCCAAAAAGAAAA AGAACAGCAACATGACCTACGAGAAGCTGAGCCGGGCCATGAGGTACTACTACAAACGGGAGATCCTGGAACGGG TGGATGGCCGGCGACTCGTCTACAAGTTTGGCAAAAACTCAAGCGGCTGGAAGGAGGAAGAGGTTCTCCAGAGTC GGAACTGAGGGTTGGAACTATACCCGGGACCAAACTCACGGACCACTCGAGGCCTGCAAACCTTCCTGGGAGGAC AGGCAGGCCAGATGGCCCCTCCACTGGGGAATGCTCCCAGCTGTGCTGTGGAGAAGCTGATGTTTTGGTGTAT TGTCAGCCATCGTCCTGGGACTCGGAGACTATGGCCTCGCCTCCCCACCCTCCTCTTGGAATTACAAGCCCTGGG GTTTGAAGCTGACTTTATAGCTGCAAGTGTATCTCCTTTTATCTGGTGCCTCCTCAAACCCAGTCTCAGACACTA AATGCAGACAACACCTTCCTCCTGCAGACACCTGGACTGAGCCAAGGAGGCCCTGGGGAGGCCCTAGGGGAGCACC GTGATGGAGAGGACAGGGGGCTCCAGCACCTTCTTTCTGGACTGGCGTTCACCTCCCTGCTCAGTGCTTGG GCTCCACGGGCAGGGGTCAGAGCACTCCCTAATTTATGTGCTATATAAATATGTCAGATGTACATAGAGATCTAT TTTTTCTAAAACATTCCCCTCCCCACTCCTCTCCCACAGAGTGCTGGACTGTTCCAGGCCCTCCAGTGGGCTGAT GCTGGGACCCTTAGGATGGGGCTCCCAGCTCCTTTCTCCTGTGAATGGAGGCAGAGACCTCCAATAAAGTGCCTT CTGGGCTTTTCTAACCTTTGTCTTAGCTACCTGTGTACTGAAATTTGGGCCTTTGGATCGAATATGGTCAAGAG GTTGGAGGGGAGAAAATGAAGGTCTACCAGGCTGAGGGTGAGGGCAAAGGCTGACGAAGAGGGGAGTTACAGAT TTCCTGTAGCAGGTGTGGGCTTACAGACACATGGACTGGGCTGGGAGGCAAAGGAAGCAGCTGAGACTGTT GGAGAACGCTTACAAGACTTCATGCAAGCAAGGACATGAACTCAGAACACTGAGGTCAGAAGCATCCTGCTGTCA TGACACCGCTCGAGTGACCTTGACCTTGACCAAGTCTGTCCTGTTTAGGACTGATTTTTCCTATTAGGCTAGGGT AGTGTGCTGTAAACTGTATATCTGTAATATGAATCCCAGCTTTTGAGTCTGACAAAATCAGAGTTAGGATCTTGT AAAGGA

CGGGTACAGGGGGCCCAAGAGCTGGGCTGGCTGTCTCCTGCTCATCCAGCCATGCGGTGGCTGTGGCCCCTGGCT AGAGCCGAGACCCAGGAGCAGCAGAGCCGATCCAAGAGGGGCACCGAGGATGAGGAGGCCAAGGGCGTGCAGCAG GCCACCAGCCCTAACCCCGACAAGGATGGGGGCACCCCAGACAGTGGGCAGGAACTGAGGGGCAATCTGACAGGG GCACCAGGGCAGAGGCTACAGATCCAGAACCCCCTGTATCCGGTGACCGAGAGCTCCTACAGTGCCTATGCCATC ATGCTTCTGGCGCTGGTGTTTTGCGGTGGGCATTGTGGGCAACCTGTCGGTCATGTGCATCGTGTGGCACAGC TACTACCTGAAGAGCGCCTGGAACTCCATCCTTGCCAGCCTGGCCCTCTGGGATTTTCTGGTCCTCTTTTTCTGC CTCCCTATTGTCATCTTCAACGAGATCACCAAGCAGAGGCTACTGGGTGACGTTTCTTGTCGTGCCGTGCCCTTC ATGGAGGTCTCCTCTGGGAGTCACGACTTTCAGCCTCTGTGCCCTGGGCATTGACCGCTTCCACGTGGCCACC TCCATGACGCTGGCTGTGCCTGAGCTCCTGCTGTGGCAGCTGGCACAGGAGCCTGCCCCCACCATGGGCACCCTG GACTCATGCATCATGAAACCCTCAGCCAGCCTGCCCGAGTCCCTGTATTCACTGGTGATGACCTACCAGAACGCC CGCATGTGGTGGTACTTTGGCTGCTACTTCTGCCTGCCCATCCTCTTCACAGTCACCTGCCAGCTGGTGACATGG $\tt CGGGTGCGAGGCCCTCCAGGGAGGAGTCAGAGTGCAGGGCCAGCAGCAGCAGCAGTGTGAGAGCCAGCTCAAC$ AGCACCGTGGTGGCCTGACCGTGGTCTACGCCTTCTGCACCCTCCCAGAGAACGTCTGCAACATCGTGGTGGCC TACCTCTCCACCGAGCTGACCCGCCAGACCCTGGACCTCCTGGGCCTCATCAACCAGTTCTCCACCTTCTTCAAG GGCGCCATCACCCCAGTGCTGCTCCTTTGCATCTGCAGGCCGCTGGGCCAGGCCTTCCTGGACTGCTGCTGCTGC TGCTGCTGTGAGGAGTGCGGCGGGGCTTCGGAGGCCTCTGCTGCCAATGGGTCGGACAACAAGCTCAAGACCGAG GTGTCCTCTTCCATCTACTTCCACAAGCCCAGGGAGTCACCCCCACTCCTGCCCCTGGGCACACCTTGCTGAGGC $\verb|CCCAGTAGGGGTGGGGAGGGGGGGGGGGGCCCCCCCCCGCCGGTGTCTGCTGTTCTTTCCCCATAGGTCTTGC| \\$ TTTGTTGCCTGTCTTGCTGTCTAGGGATGGACTTGGTTCCTCTTGTCAAGGTTTGGGAATCCG

MRWLWPLAVSLAVILAVGLSRVSGGAPLHLGRHRAETQEQQSRSKRGTEDEEAKGVQQYVPEEWAEYPRPIHPAG LQPTKPLVATSPNPDKDGGTPDSGQELRGNLTGAPGQRLQIQNPLYPVTESSYSAYAIMLLALVVFAVGIVGNLS VMCIVWHSYYLKSAWNSILASLALWDFLVLFFCLPIVIFNEITKQRLLGDVSCRAVPFMEVSSLGVTTFSLCALG IDRFHVATSTLPKVRPIERCQSILAKLAVIWVGSMTLAVPELLLWQLAQEPAPTMGTLDSCIMKPSASLPESLYS LVMTYQNARMWWYFGCYFCLPILFTVTCQLVTWRVRGPPGRKSECRASKHEQCESQLNSTVVGLTVVYAFCTLPE NVCNIVVAYLSTELTRQTLDLLGLINQFSTFFKGAITPVLLLCICRPLGQAFLDCCCCCCEECGGASEASAANG SDNKLKTEVSSSIYFHKPRESPPLLPLGTPC

 $\label{thm:lateppg} \textbf{MQRASRLKRELHMLATEPPPGITCWQDKDQMDDLRAQILGGANTPYEKGVFKLEVIIPERYPFEPPQIRFLTPIY\\ \textbf{HPNIDSAGRICLDVLKLPPKGAWRPSLNIATVLTSIQLLMSEPNPDDPLMADISSEFKYNKPAFLKNARQWTEKH\\ \textbf{ARQKQKADEEEMLDNLPEAGDSRVHNSTQKRKASQLVGIEKKFHPDV}$

622/6881 FIGURE 580A

TGGCCTGGACAAACAGGTCCTGAAGCTGCGAGGCTGGAGTGGAGGGCGCGCAGGGGCAGGGGCGGCGCGCCAGAGCT CTCTGTGCCCTCTCCTTCCAGAAATCCACCATGGAGAGTAAGGATGAGGTCAGCGACACCGACAGTGGCATCATC CTGCAGTCTGGCCCCGACAGCCCGGTCTCCCCAATGAAGGAGCTGACCCATGCAGTGCACAAGCAGCAGAGGGCC CTGGAAGCGAGGCTGGAGGCCTGGAGGAGCTGAGGAGACTCTGCCTTCGGGAAGCGGAGCTGACGGGCACC TTGCCAGCGGAGTATCCCCTCAAACCAGGGGAAAAGGCCCCCAAGGTTCGCCGCAGGATCGGAGCGGCTTACAAA CTGGATGACTGGGCCTTGCACAGAGAGGACCCCCTAAGCAGCCTGGAGCGCCAGCTGGCCCTGCAGCTGCAGATC GCTGCTGCTCCCCCTGGGCCGAGAGCTCAGTGCCTCTGATGACAGCTCCCTGTCAGATGGGCTCCTCCTGGAG GAAGAGGAATCCCAAGTGCCAAAACCTCCTCCAGAGTCTCCAGCCCCACCTTCTCGGCCTCTCCCACCCCAAACC CTTGAGGGTCTGCAGCCAACAGGACCTGAGGCTGGGAGCCCAGAACGGGCTCCAGTCCAGAACAGCCCCTGGAAG CGTGGTGTTCCTGGCCAGTGGCAGGGCCGCACCAGTGCCCCAGCCACCCTGAGATACAGGGGAGGAGGGGCCAG TCGCAGTCTCTGAGGGTGGATTCCTTCCGGGCGGGTCCTGAGGGCCGAGGTCGCAGCGCCTTTCCCCGCCGCCGC CCCACTCACTACACGGTGACAGTGCCAGATTCCTGCTTTCCCGCGACCAAGCCCCCGCTGCCCCACGCCGCCTGC CACTCCTGCTCAGAAGACAGTGGCTCTGACGTCTCCAGCATCTCCCACCCCACTTCGCCGGGCAGCAGCAGCCCC GACATCTCCTTTCTGCAGCCTCTCCCCCCCCAAGACCCATCGTCACCGCGGGGCCTGGGTCCCAGCCGGCAGC AGAGAGCTGGTCGCCCACCCCAAGCTACTGCTGCCGCCTGGCTATTTCCCGGCGGGGCGGTACGTGGTGGTG GCAGGCCGGGGGCTCAGCAAGGCCGCCGTGTCCGAGGAGCTCAAGTGGTGGCACGAGCGTGCACGCCTCCGGAGC ACCCGCCCCACTCACTGGACCGCCAAGGAGCTTTCCGGGTCAGGAGCCTGCCCCTTGGGAGAGAGGGCTTCGGA CGAGCCCTGGGACCCCGGGCACAGGTGCCCACAGTTTGTGTGCTGCGGAGATCGCCTGATGGGGCCCCTGTGCAA GTCTTTGTACCTGAAAAAGGAGAGATCATCAGCCAGGTGTAACTCTGCGCCCCACGCTGGAAAAAACTGTTTCAT AGAGGGGCTGGGCTGAGACCCCCCACCCCTGAGTGCCTCTTTCAGCTCCCCATCCCCATCGCAGGCCGATGAC CTGGAGCTGAGACCTTTTATTATTTTTTTTTTACACGACTTTTTTCAGAAGCCCTGACCTAAGGATTTATATATG TGGATTGTCCTCAATACCCCTGTGATATGATTATGTTTTATCCCCCAGAGTTTGGCCTACTGGACTTAAGGCCTT GCCTGTCTGACTGACAGCCTCTATCTCCTTATATAAGACAAGTGGCAGGGGACGAGTGAAGCAGAGTGAGCCACC TTGGGAGTTCTCCAACGCTCTGTGCTCTGGTTCTAAGAAATTCCCTGGGGAACTGCCCCTGGCCCTCCTGTCCCA CTATTGCTGGAGGCTGGACATGGTACATACTCATGCACATGACTCTCCCCCATTTCCCAGGTCTCTGGGTACCCC AGCCTGGGCTGGGGGAGAATCTCTTCCCCCTTTTCTAATGTGCTCTGTGATGCACACACCAAGTGGTAGGTCAAA GGTCAGTATATCCCGGTGGTGTATTGTCTTGCTAGACCCTGCTATTTTCCTGACCCCCTAAATCCTCTTTAGGGA CCCAGTCACTATACCCTGTCTATGCCCTGTGGGCTCCCAGACCCCTGAGCTTTGAGTCAGTGGCATCACAGTTTG TAGCCTCAGGGGGTCTGGCTGGGGGCTGGTCCATGCTTGTGGTTAGTGGACAGCCACCCTTTGACAGCTACC TGTCGCCCAGGCTGGAATGCTGTAGCAAGATTTCGGCTCACTGCAACCCCCGTCTCCCGGGTTCAAGCGAATCTC ATGGGGTTTCATCATGTTGGCCAGGCTGGTCTCGAACTCCTGACCTCAAGTGATCCACCTGCCTTGGCCTTTCAA AGTGCTGGGATTACAGGCATGAGCCACCGCACCTGGCCCTTCTAACGTTTTTTCATCATAGTCCCAAAAACCAAT ACTITACAAGTGGTTTTGGAAAGGCACCACTTTTGTGGCATGTTCTGGTTGGGAGAGGGAGTCACAGTTCCTACT GATGAGATGCTGAATTTTCTTTGGGGGCATTCATTAATTGTCCCAGCTGCAGCGACTGGAGCAAGTCTGGAAGCT GCCTGTGCTAAGACCACCCAGCTGTCCCTGGGTTCTCATCCTAGGGCCTTCTTTGCTTCCAGGTCAGGGGACCTG CTTCAATGAGAAAGCAACTGAATTGAGGCTAGGAGAGGTAGGGAGAGCTGAGTTCTGACTTCACCTGTGCAGAAC TCTCTGCCCCCATGTTACCTGGACTGGAACAGACTGTGAATATAGCAGAAGGTTCCAAGAACTCTGGTGTCTGAC

623/6881 FIGURE 580B

CTAGAAGAGGCACAGTTCTCTCTACTGGAAAGAAAACGATGTAGCCGATTGCACAAGGGTGCCAAGGGAAGACCC
AGGATGGCCCATCAAAGGAACCTGGGGGAGGATGCAGGAGGCTGAAGGGATGCACCTGGCATTTCTCTCACTGTG
CTCTTACCGCATCAGCAACCCCCAACTTTTGGGCCTACTCTGCCCCCCCATGCGTGAATACCCTGCTTGGATGCTG
TGCTTTTCCGGTTTGTCTCTAAGCCCCTTTCTCCAGGGCATGTTGGTTTCCCTGGCCTCTCAGTGTCCTAACTGG
AGCCCAGAGTGCCTTGTTCTGAGCCAGGAGACGGCTGAGCACTGGCCCTCCACACCTAAGCGTCCTTTACATTAA
CTTATTGGTCTTGTATAACACCTGGTGCCATTGCCAAGTGGCTGTCCTCAGCTACAGAGCTGGAATTGTGTGG
GGTTTAGTGCTAAATACTTCAATAAAGTCTGTTTTTTTGTGATTGGCTG

TCCCGGGCCGGGAGCCCAGCAGGCCGGGAGCGGCTGAGGCCACACCCCGGGGCCGGGCCGCTTCCCTCCGGTGA ATCATCGCTCGCAGCGGCGCCCCGCAGTGGCCGCAGCAGCGCCCCGGGCCCTGGCCGCGCCCCAGCCGAGCGC AGCGCGGAGTCGCCCCGACCTTTCTCTGCGCAGTACGGCCGCGGGACCGCAGCATGGCGGGCATCGCGGCCAAG $\verb|CTGGCGAAGGACCGGGGGGGGGGGGGGGGCTGGGCTCCCACGACAGGGCCATCAAGTACCTCAACCAGGACTAC| \\$ GAGGCGCTGCGGAACGAGTGCCTGGAGGCCGGGACGCTCTTCCAGGACCCGTCCTTCCCGGCCATCCCCTCGGCC CTGGGCTTCAAGGAGTTGGGGCCCTACTCCAGCAAAACCCGGGGCATCGAGTGGAAGCGCCCCACGGAGATCTGC CTGGCAGCCATTGCCTCCCTCACCTTGAATGAAGAAATCCTGGCTCGAGTCGTCCCCCTAAACCAGAGCTTCCAG CTGCCCACCAAGGACGGGAGCTGCTCTTTGTGCATTCAGCCGAAGGGAGCGAGTTCTGGAGCGCCCTGCTGGAG AAGGCATACGCCAAGATCAACGGATGCTATGAAGCGCTATCAGGGGGTGCCACCACTGAGGGCTTCGAAGACTTC ACCGGAGGCATTGCTGAGTGGTATGAGTTGAAGAAGCCCCCTCCCAACCTGTTCAAGATCATCCAGAAAGCTCTG CAAAAAGGCTCTCTCCTTGGCTGCTCCATCGACATCACCAGCGCCGCGGACTCGGAGGCCATCACGTTTCAGAAG CTGGTGAAGGGGCACGCGTACTCGGTCACCGGAGCCGAGGAGGTTGAAAGTAACGGAAGCCTACAGAAACTGATC GACCCAGAGGAGAGGGAAAGGCTGACCAGACGGCATGAAGATGGAGAATTCTGGATGTCTTTCAGTGACTTCCTG AGGCACTATTCCCGCCTGGAGATCTGTAACCTGACCCCAGACACTCTCACCAGCGATACCTACAAGAAGTGGAAA CTCACCAAAATGGATGGGAACTGGAGGCGGGGCTCCACCGCGGGAGGTTGCAGGAACTACCCGAACACATTCTGG ATGAACCCTCAGTACCTGATCAAGCTGGAGGAGGAGGATGAGGACGAGGAGGATGGGGAGAGCGGCTGCACCTTC CTGGTGGGGCTCATTCAGAAGCACCGACGGCGGCAGAGGAGAAGATGGGCGAGGACATGCACCATCGGCTTTGGC ATCTATGAGGTTCCAGAGGAGTTAAGTGGGCAGACCAACATCCACCTCAGCAAAAACTTCTTCCTGACGAATCGC GCCAGGGAGCGCTCAGACCCTTCATCAACCTCCGGGAGGTGCTCAACCGCTTCAAGCTGCCGCCAGGAGAGTAC GACTACCAAGCTGTCGATGATGAAATCGAGGCCAATCTTGAAGAGTTCGACATCAGCGAGGATGACATTGATGAT GGATTCAGGAGACTGTTTGCCCAGTTGGCAGGAGAGGATGCGGAGATCTCTGCCTTTGAGCTGCAGACCATCCTG AGAAGGGTTCTAGCAAAGCGCCAAGATATCAAGTCAGATGGCTTCAGCATCGAGACATGCAAAATTATGGTTGAC ATGCTAGATTCGGACGGAGTGGCAAGCTGGGGCTGAAGGAGTTCTACATTCTCTGGACGAAGATTCAAAAAATAC CAAAAAATTTACCGAGAAATCGACGTTGACAGGTCTGGTACCATGAATTCCTATGAAATGCGGAAGGCATTAGAA GAAGCAGGTTTCAAGATGCCCTGTCAACTCCACCAAGTCATCGTTGCTCGGTTTGCAGATGACCAGCTCATCATC GATTTTGATAATTTTGTTCGGTTGTTCGGCTGGAAACGCTATTCAAGATATTTAAGCAGCTGGATCCCGAG AATACTGGAACAATAGAGCTCGACCTTATCTCTTGGCTCTGTTTCTCAGTACTTTGAAGTTATAACTAATCTGCC TGAAGACTTCTCATGATGGAAAATCAGCCAAGGACTAAGCTTCCATAGAAATACACTTTGTATCTGGACCTCAAA ATTATGGGAACATTTACTTAAACGGATGATCATAGCTGAAAATAATGATACTGTCAATTTGAGATAGCAGAAGTT TCACACATCAAAGTAAAAGATTTGCATATCATTATACTAAATGCAAATGAGTCGCTTAACCCTTGACAAGGTCAA AGAAAGCTTTAAATCTGTAAATAGTATACACTTTTTACTTTTACACACTTTCCTGTTCATAGCAATATTAAATCA GGAAAAAAAATGCAGGGAGGTATTTAACAGCTGAGCAAAAACATTGAGTCACTCTCAAAGGACACGAGGCCCTT GGCAGGGAATATTTAAAGCAACTTCAAGTTTAAAATGCAGCTGTTGATTCTACCAAACAACAGTCCAAGATTACC ATTTCCCATGAGCCAACTGGGAAACATGGTATATCATGAAGTAATCTTGTCAAGGCATCTGGAGAGTCCAGGAGA CTCCTTACAATCAAGTTCTTGACCCTATTCGGCCTTATACATCTGGTCTTACAAAGACCAAAGGGATCCTGCGCT TGATCAACTGAACCAGTATGCCAAAACCAGGCATCCAATTTGTAAACCAATTATGATAAAGGACAAAATAAGCTG AGTTCTTATAGAAAGGACACAAGTTTGTTTCCTGGCTTTACCTTGGGAAAATGCTAGCAACATTATAGAAATTTT CATGTTTTCCTTCCTGGAGGGCAGCCCCACAGGACGGTTTATGAGCACACAATTATAGCTTGTTTCTACTTTAAC AAGGTATGCTGCCTCTGTAAATTCATGTATTCAAAGGAAAAGACACCTTGCCTATAATTAAAATGTGGAACTATA **AAATTTTTTAAAATCC**

PCT/US2003/028547

626/6881 FIGURE 583

GGTATTTCAGGACAGCCAGGAGGGGGGCGCACATCCGCCGAGAAACTGTGAGCAAGAGCGTCTGTGCTGAACCATG GCGCCACCAGAGGGCGCGCGATCCCGCCCCAACCAACTTCCCGCTGAGGTGCCAGAAGCAGCGAGGAGCTTCAGC TTCCTCAGGGCAGCACGAGGGTCGTGTTAACTTGGTGTTCTTCATTGATGATGATTATTCCCCACCTTCTAAGAG ACAAAGACCAACGAGCCACCAGCCACCAGTCCCAGAACCTGCCAATGCTGGGGAAACGGAAAATGAGGGAGTTC AACTCTGGCCCTCACAATCCAGTGGAGGAGACGAAACTCATCTGCCTCTGTCCCTCTGGGCACGCCTCATGCCAG GTGCATCTGTGGACAGGGGCCATGCCCCTGGGCTTCCAAAGTTGGAGAGAGCTGCCAGGCTCAGGTCTGAAGGCC AGAATTCTACAGTAAGTCCTACTGAGTCAAGGTGGGAGCAGGGTCGGTAGCTTCCGAGGCTCTGCGGGAGAATCC GTTTCCTGGCCGTAGAGGTGGCCTGCACTCCGCAGCTTGTGCTGCCCGTCTCGAATGACTGGAGTTTCCTGCTTC TGTCACTACACCTCCCACCCTCTCCATCACCTGCTCTGCTCTTACAAGGATCCGAAGAAATGGAATCATCGTATC ATTTACAACTTGATAAATCAACTTTGTCAGCTCGAGCTGTAAAAGCCAAAGGTCCGGTGATGATCCCATACCCTT GATGGAGTTTTCACTCTTATCGCCCAGGCTGGGGTGCAATGGCGCAACCTTGCTGGTCACTGCAACCTCTGCCTC CTGGGTTCAAGAAATTCTCCTGCCTTAGCCTCCCAAGTCACTGGGATTACAGGTGCCCACCACCATACCAGGCTA ATTTTTGTATTTTTAGTGGAGATGCGGTTTCACCATGTTGGCCGGGCCAGTCTCGAACTCCTGACGTCAAGTGAT CTTCCCGCCTCGACTCCTGATATCAAGTGATCTTCCCGCCTCGGCCTCCCAGAGTGCTGAGATTACAGACGTGAA CCCATGCCTGGCCAGGAATTTTGTTTTTTAGGAAGGCTTTCTACTAATGGAATTCCTGGCCTTGAGAGGATGTTA CTTTAGAAGGAAAGGATTTTTTTTTTTTATAAAAGCTGGACCTACCATGAAAGACTTCTGAATCCAGGAAGAGAAA CTGACTGGGCAACATGTTATTCAGAAACAGGACCTTGCCCTGTCACTCAGGATGGAGTTCAGTGGTCCTATCATG GCTCATTATAGCCTCAAACTCCCAGGCTCAAGCAATCCTACCATGTCAGCCTTCCCAGTAGCTGGGACTACAGAT ACCGGGTCTCACACTGTCACCCAGGCTGGAGTACAGTGGCACAACCTCTGCTCACTGCAGCCTCCACCTGCCAGG CTCAAGCAATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGTGATTTCCAGGATGTGAGCTCACAATGACTCAAGCT GCCACATACTGTTGATTGTGAAATGCCAGTTGAAGCATATGTCCTGCGAGCTTAGGGGTGCTACAAGTTGACCAC ATGTTATTCAGAATCTTCCTGTGCCATCCAGGCTGGAGTGCAGTGATGTGATCATAGCTCACTATAGCTTTGGCC TTCTGAGATCAAGCAATCCTCCCATCTCAACCTCCCAAGTAGCTAGGACTACACACGCATGTCACCCATGCCCAG ATCATTTTTGTAGAGTCAGAGTTTCACCGTGGTGGCCAGGTTGGCCATGTTGGCCAGATGGGGTCTTCTTTTGTT GCCCAGGCTGGCCACAAATTCCTGGGCTCAAGTGATCCTCCCACCTCGTCCTTGTAGAGATGAGATTTAGTTATG TCGTCCAGGCTGATCTCAAACTCCTGGGCTAAATCGATTGTCTCACCTCAGCCTCTCAAGTATGTTATGAAGGTT ATATGTTAGGAAGGGTCCCAGGAGGTAAACCCACACAGATGGGATTTGGCCATAGGTTTGGTTTCCCAGGGGGCA $\tt GTGCTGAGCTCTTTGCCAGTGGGAAATGGGATGCTGGTGATTTCCAGTAGGTGACCTCACAGTGACTCAAGCTAC$ CACTTACTGTTGATTGTGACGAAATGCCAGCTGAGGCACATGCCTTGGGAGCTAAGTGGTTGCTGCCCTTGACCA CTGTGAAGACTGGTGTGGGAAGGGTCGTTTTGGATGCACTTGAGCAGGGGTCCCCAACCCCTGAGCCATGGAGCC GCAAGGAGCCACACAGCAGGAGGTGGGAACATCCAGTTGCAGGAAAACAAGCTTAACACGCCCACTGATTCTACA TTATGCTCCTACCTCCCGGCAGCCTCTCCAGGCCCAGAACTTTCTCCAGTCAGCCTCTACAGACCAAGCTCATGA CTCTCAATGGCCTATTTAGGCCCATACCCTACGTCACGGCAGCCTCCGCAGATGAGGCTACTGCCTCACAACAGC CTCCACAGGCACAGCTCCATCGTTACAATGGCCTCTTTAGACCCAGCTCCTGCCTCCCAGCCTTCTCTCCAGGCC CTGAACTTTCTCAAGTTGACCTCACCAGGCCCAGCTCATGCTTCTTTGCAGCCTCTCCAGGCCCAGCTCCTGCAT CTTGGTGGCCCCTCCAGGCCCAGCCTCTGCCTCCCGTCAGCCTCTACAGTCCCAACGTCTGCCTCACAGCAGATT CTTCACGCCCAGCTTCTACCTCACTGTGGACCCCCCAAGCCAAGCTCCCAACCTTTCAGCAGCTTCTACACACCC AGCTCCTGCCACCCAGTGGCCTCTTTAGGCCAAGCTCATGCTTCACAAGGGCCCTTTCCAGGCCCAACTTTTGTCT CATGGCAACCTTCCCTGGCCAGATTCCTGCCTGTCTCCCAGCAGCCTAGACAGGCCCAGGTCTTGCCTCACACTG GCCTCTCTACATCCAGCTTATGCCTCACGGTGGCCTCTCCA

MMIIPHLLRDKDQRATTATSPRTRQCWGTENEGVQLWPSQSSGGDETHLPLSLWARLMPGASVDRGHAPGLPKLE KAARLRSEGQNSTVSPTESRWEQGR

MEAVVFVFSLLDCCALIFLSVYFIITLSDLECDYINARSCCSKLNKWVIPELIGHTIVTVLLLMSLHWFIFLLNL PVATWNIYRYIMVPSGNMGVFDPTEIHNRGQLKSHMKEAMIKLGFHLLCFFMYLYSMILALIND

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CCCTAATCAAGTACCCCCTCCTCCTCCACCACCTCCTGCCCCACCCTCCTGCATCTGGATTCTTTTTGGCATC CATGTCAGAAGACAATCGCCCTTTAACTGGACTTGCAGCTGCAATTGCCGGAGCAAAACTTAGGAAAGTGTCACG GATGGAGGATACCTCTTTCCCAAGTGGAGGGAATGCTATTGGTGTGAACTCCGCCTCATCTAAAACAGATACAGG CCGTGGAAATGGACCCCTTCCTTTAGGGGGTAGTGGTTTAATGGAAGAAATGAGTGCCCTGCTGGCCAGGAGGAG AAGAATTGCTGAAAAGGGATCAACAATAGAAACAGAACAAAAAGGGACAAAGGTGAAGATTCAGAGCCTGTAAC CAAGTCACCTGTTATCTCCAGACCAAAATCCACACCCTTATCACAGCCCAGTGCCAATGGAGTCCAGACGGAAGG ACTTGACTATGACAGGCTGAAGCAGGACATTTTAGATGAAATGAGAAAAGAATTAACAAAGCTAAAAGAAGAGCT CATTGATGCAATCAGGCAGGAACTGAGCAAGTCAAATACTGCATAGAGGAACAGACTAAGGAGAAGATAGGACTTT AATCTGGAGGAAAAATATCCTACAAACAACAACTGTTCACAACAGCAAACCCCTACATTTATGAGCTGTAAGAAG AAAATGGAGACAAACAGAAGGAGGGAAAAACCAACCTACTCTGAAAGCCTTCAGACATTATGACTCTGGTGATAA GCTCTTTCCCTCTCCGTTTGCTGCTTTTTTCTGGCCTTTACAACAGAATGGAAGAGAATCATTTAAGAGTTCCTG TAACAGTTATGCAGAAAATACTAAAACCCATCAGGCAAGATCACCACGCATTGAAATATTTTCATATCAAGATAA AGTCGCACATTTTCCACAATACATTGCTAAAATAAAGAGGAGAAAGGCTTAGGAAGTTTTTCTGCAGAGAGTGCT GGTAAAGAATTGAGCAAGTTTGCTATTGTATTGTAATGTTTCTCCCAGGTTTGTTCTTCCTATCATGTTTGATAT TCCATGAATAATTGAGATCAGCCCTATGTAAGTTAAGATCATAATATGTGGAACAAATGGAATTGTAAGTGCTTT CAAAGGGTAATATTTATAAGAAAGTGTCCGAAAAATGTTTCTTCAGCTTGAGAAATTTTAGAATGATAGGAAGTT TCTCGAGTTAGCCTTCATGCAATTTTGTAGATTAAAACATAAAATTTGTCCAGAACTTAAAGATTTAGATGCCTT CCTAAATTGTTACAATGCTTTACCAAATCTATGACTTCTACATAACACAAACCAGTGGTCAAATGTAAACACTAT ATTGTAGATTTACTGTAGGTTTTCAACCTTTTTTAGATTTATGCATGTGGACATTTTTATAATGTAATTACAATC ACCACAAGGTTAGCTTTTTTAATTGCAGACAGTAATGCATGTCACACTAATATGTAGTGGCCTTTTCAAGGCCTA TGTTACAAAACCAAGTACTTAATCTTTTACATCATGTCTTCAGCTATTTGTATTTTAACCAGTAATTTCAATGGT CTGAAACATGATTCTGAGCTTCACATAATATCTTAACTGTGGAACTCAAAAGTTTGATCACTGAATTTGGCAGTT GTTATGTTGAAATGCAAGAAATAACAATGATGGCAGCAATTAAGGTCACAGAAATCATTAGGTAAAGGAAAACCA GAATTAGACACTCTGCCTCCCCTCTGCGTGTGTGTGTCTCCCCCCACGTGCTGTCTATATGGAAGCCACTCCCT TTTCTTTCCTTTGAAACTGGTAAGGTTAAAATAGGGGAGAAATCCTACATGTTGGAATGATAGCTTTTTGGAAAA TTTAAGAAACTCTCCAGGCTCTCCATCTTGATTTATGCTTGAGTTGTTATGTGCCATATTTGCTTTGAACTCTGA TTATCAGAAGTTTTACTAAAACTTTGAAATAATTCACTTTCATCTGCTTTCTAGATTTTGTACATCTCAGTCCAT AAAGCAAAGCTTGTTGATAGTGTAGTTTTCTAAACGCTGCAAATTTGCAGCCTTTACCACTACAAAGAAGTTTGG GGATGGGCTATCATAATTCAAGTATACATTTCTTTTTTCTATCAGATATTCATTGTCATGCAGTAGTAGTAAAAA CATCAAAGATGCAGCAAGCTTATTAAGTATTATTTTCTAAAAGAAATAGGAGGCATTTTCATCTTTATTATTGTA CTTTTGGTTATGCAAACACTTTGATAATATAAACAGTTATGTCCCCTATAAATCTGGTCAGCAACCTCTTTTGAT TTTGTTGGGTAAGTTAAATAGTCTGTAGTAGGTAGAGTACTGGGTACAAGTGGTCCAAACTAAGATAAGAGACTA AAATAAAATGCTAAATCTTAAAAGAAACTGGGTTTATGCACTAAACGTTTTGTGCCCTTGGTCTAATATTAACATG ATGTATGTGTAAACTGAC

MSEDNRPLTGLAAAIAGAKLRKVSRMEDTSFPSGGNAIGVNSASSKTDTGRGNGPLPLGGSGLMEEMSALLARRR RIAEKGSTIETEQKEDKGEDSEPVTSKASSTSTPEPTRKPWERTNTMNGSKSPVISRPKSTPLSQPSANGVQTEG LDYDRLKQDILDEMRKELTKLKEELIDAIRQELSKSNTA

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 $\tt TTCTCTTTACTTTTCCACTCTAGGCCACG\underline{ATG} \tt CCGCAGTACCAGACCTGGGAGGAGTTCAGCCGCGCTGCCGAGA$ AGCTTTACCTCGCTGACCCTATGAAGGCACGTGTGGTTCTCAAATATAGGCATTCTGATGGGAACTTGTGTGTTA AAGTAACAGATGATTTAGTTTGGTGTATAAAACAGACCAAGCTCAAGATGTAAAGAAGATTGAGAAATTCC ${\tt ACAGTCAACTAATGCGACTTATGGTAGCCAAGGAAGCCCGCAATGTTACCATGGAAACTGAG{\underline{\bf TGA}}{\tt ATGGTTTGAA}$ ATGAAGACTTTGTCGTGTACTTAGGAAGTAAATATCTTTTGAATTAGAGAAAGTGTTGGGACAGAAAGTACTTTA TGTAACTAAGTGGGCTGTTCAGAAGCTTAGAGGTCATTTTTTGTAATTTTCTTTTAATTACTTTAGAGAGCTAG GGATGCAAATGTTTCAGTTAGAAAGCCTTTATTTACTTTTGGAAATTGAACAAGAAATGCATCTGTCTTAGAAA CTGGAGATTATTTGATGTTAGGTAAAACATGTAATTGTTTCTCTGGCAAATTTGTATCAGTAATTTGAAAATGAG TCCACACCATAGTATGCATTGTTATACATACTGTGTACCTAATTATGTATAGCAGTGTAGTCTCAATTATATCTG AAAGTAATTGTGACTAACAAGTATGCTTTGCCTTATTTCCACATTTAAACTACCTGTTAATATAAGGGATTTGTA GTATCAGCTTGTTGAGCAATGACTTTGAATCTAGTTTTCAGTGATCAGAAGCAGCAGTTATTTGAGTGTATGAAT GGAATGATCACTGTGCTATAATGTACTGAAACCACCATATTACAGAAATATTTACTACATATTTTCCATCTG TAGTTTCTCAGAAGGGCTATGGATTAGTTTGAACTGTCAAATCCTTGCATACTTCTGTGACACCCCTGCCCATTT TCTGTCTTTAATTAACCAAGGTGTTAGGTGTGACTGTCACAACTGTTATGTTTTCCAGTAAACTAGAAGTACGAT ATTTGATAATTATATTTGTATTTCACCACCTAAATGTAATGTTGATTCCTCAAGAATGAAATGAAGGCACTACAT TGAAATATGTTTTGTATAAATTTGTCATGTTGAACAGCATTTTAGCATGGTAAGTTCCCTTAGCTATATGAATTT TGGCATGTTTCAGAGAGATCAGTAAATAAAATATTAGAT

 ${\tt MPQYQTWEEFSRAAEKLYLADPMKARVVLKYRHSDGNLCVKVTDDLVCLVYKTDQAQDVKKIEKFHSQLMRLMVAKEARNVTMETE}$

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634/6881 FIGURE 591

 ${\tt AACAATTTCTAGTACTCTAGTTTGTTTCAAGAAGAGATTTTGGGTAGACGTAATCTTCACCCTTTCAAATTATA}$ TAACAATACGAACATTATTTTTTATACTGATCATAATTTCCAGATTTGGGGAGGGGGTGATCGTGGCAGGAAAAG ATGGCTCGTACAAAGCAGACTGCCCGCAAATCGACCGGTGGTAAAGCACCCAGGAAGCAACTGGCTACAAAAGCC GCTCGCAAGAGTGCGCCCTCTACTGGAGGGGTGAAGAAACCTCATCGTTACAGGCCTGGTACTGTGGCGCTCCGT GAAATTAGACGTTATCAGAAGTCCACTGAACTTCTGATTCGCAAACTTCCCTTCCAGCGTCTGGTGCGAGAAATT GCTCAGGACTTTAAAACAGATCTGCGCTTCCAGAGCGCAGCTATCGGTGCTTTGCAGGAGGCAAGTGAGGCCTAT CTGGTTGGCCTTTTTGAAGACACCAACCTGTGTGCTATCCATGCCAAACGTGTAACAATTATGCCAAAAGACATC CAGCTAGCACGCCGCATACGTGGAGAACGTGCTTAAGAATCCACTATGATGGGAAACATTTCATTCTCAAAAAAA TACCTAAGTATATGATTGCGAGTGGAAAAATAGGGGACAGAAATCAGGTATTGGCAGTTTTTCCATTTTCATTTG TGTGTGAATTTTTAATATAAATGCGGAGACGTAAAGCATTAATGCAAGTTAAAATGTTTCAGTGAACAAGTTTCA GCGGTTCAACTTTATAATAATTATAAATAAACCTGTTAAATTTTTCTGGACAATGCCAGCATTTGGATTTTTTTA CTGTAAGTTTGCTATTAAAATACATTAAACTAT

636/6881 FIGURE 593A

AATCTATCAGGGAACGGCGGTGGCCGGTGCGGCGTGTTCGGTGGCGGCTCTGGCCGCTCAGGCGCCTGCGGCTGG GTGAGCGCACGCGAGGCGCGAGGCGGCAGCGTGTTTCTAGGTCGTGGCGTCGGGGCTTCCGGAGCTTTGGCGGCA GCTAGGGGAGGATGGCGGAGTCTTCGGATAAGCTCTATCGAGTCGAGTACGCCAAGAGCGGGCGCGCCTCTTGCA AGAAATGCAGCGAGAGCATCCCCAAGGACTCGCTCCGGATGGCCATCATGGTGCAGTCGCCCATGTTTGATGGAA AAGTCCCACACTGGTACCACTTCTCCTGCTTCTGGAAGGTGGGCCACTCCATCCGGCACCCTGACGTTGAGGTGG ATGGGTTCTCTGAGCTTCGGTGGGATGACCAGCAGAAAGTCAAGAAGACAGCGGAAGCTGGAGGAGTGACAGGCA AAGGCCAGGATGGAATTGGTAGCAAGGCAGAGAAGACTCTGGGTGACTTTGCAGCAGAGTATGCCAAGTCCAACA GAAGTACGTGCAAGGGGTGTATGGAGAAGATAGAAAAGGGCCAGGTGCGCCTGTCCAAGAAGATGGTGGACCCGG AGAAGCCACAGCTAGGCATGATTGACCGCTGGTACCATCCAGGCTGCTTTGTCAAGAACAGGGAGGAGCTGGGTT TCCGGCCCGAGTACAGTGCGAGTCAGCTCAAGGGCTTCAGCCTCCTTGCTACAGAGGATAAAGAAGCCCTGAAGA AGAAATCTAAAAAAGAAAAAGACAAGGATAGTAAGCTTGAAAAAGCCCTAAAGGCTCAGAACGACCTGATCTGGA ACATCAAGGACGAGCTAAAGAAAGTGTGTTCAACTAATGACCTGAAGGAGCTACTCATCTTCAACAAGCAGCAAG TGCCTTCTGGGGAGTCGGCGATCTTGGACCGAGTAGCTGATGGCATGGTGTTCGGTGCCCTCCTTCCCTGCGAGG AATGCTCGGGTCAGCTGGTCTTCAAGAGCGATGCCTATTACTGCACTGGGGACGTCACTGCCTGGACCAAGTGTA TGGTCAAGACACAGACACCCAACCGGAAGGAGTGGGTAACCCCAAAGGAATTCCGAGAAATCTCTTACCTCAAGA AATTGAAGGTTAAAAAACAGGACCGTATATTCCCCCCAGAAACCAGCGCCTCCGTGGCGGCCACGCCTCCGCCCT CCACAGCCTCGGCTCCTGCTGTGAACTCCTCTGCTTCAGCAGATAAGCCATTATCCAACATGAAGATCCTGA CTCTCGGGAAGCTGTCCCGGAACAAGGATGAAGTGAAGGCCATGATTGAGAAACTCGGGGGGAAGTTGACGGGGA CGGCCAACAAGGCTTCCCTGTGCATCAGCACCAAAAAGGAGGTGGAAAAGATGAATAAGAAGATGGAGGAAGTAA AGGAAGCCAACATCCGAGTTGTGTCTGAGGACTTCCTCCAGGACGTCTCCGCCTCCACCAAGAGCCTTCAGGAGT TGTTCTTAGCGCACATCTTGTCCCCTTGGGGGGCAGAGGTGAAGGCAGAGCCTGTTGAAGTTGTGGCCCCAAGAG GGAAGTCAGGGGCTGCGCTCTCCAAAAAAAGCAAGGGCCAGGTCAAGGAGGAAGGTATCAACAAATCTGAAAAGA GAATGAAATTAACTCTTAAAGGAGGAGCAGCTGTGGATCCTGATTCTGGACTGGAACACTCTGCGCATGTCCTGG AGAAAGGTGGGAAGGTCTTCAGTGCCACCCTTGGCCTGGTGGACATCGTTAAAGGAACCAACTCCTACTACAAGC TGCAGCTTCTGGAGGACGACAAGGAAAACAGGTATTGGATATTCAGGTCCTGGGGCCGTGTGGGTACGGTGATCG GTAGCAACAACTGGAACAGATGCCGTCCAAGGAGGATGCCATTGAGCACTTCATGAAATTATATGAAGAAAAAA CCGGGAACGCTTGGCACTCCAAAAATTTCACGAAGTATCCCAAAAAGTTCTACCCCCTGGAGATTGACTATGGCC AGGATGAAGAGGCAGTGAAGAAGCTGACAGTAAATCCTGGCACCAAGTCCAAGCTCCCCAAGCCAGTTCAGGACC TCATCAAGATGATCTTTGATGTGGAAAGTATGAAGAAAGCCATGGTGGAGTATGAGATCGACCTTCAGAAGATGC CCTTGGGGAAGCTGAGCAAAAGGCAGATCCAGGCCGCATACTCCATCCTCAGTGAGGTCCAGCAGGCGGTGTCTC AGGGCAGCAGCGACTCTCAGATCCTGGATCTCTCAAATCGCTTTTACACCCTGATCCCCCACGACTTTGGGATGA AGAAGCCTCCGCTCCTGAACAATGCAGACAGTGTGCAGGCCAAGGTGGAAATGCTTGACAACCTGCTGGACATCG AGGTGGCCTACAGTCTGCTCAGGGGAGGGTCTGATGATAGCAGCAAGGATCCCATCGATGTCAACTATGAGAAGC TCAAAACTGACATTAAGGTGGTTGACAGAGATTCTGAAGAAGCCGAGATCATCAGGAAGTATGTTAAGAACACTC ATGCAACCACACACAATGCGTATGACTTGGAAGTCATCGATATCTTTAAGATAGAGCGTGAAGGCGAATGCCAGC GTTACAAGCCCTTTAAGCAGCTTCATAACCGAAGATTGCTGTGGCACGGGTCCAGGACCACCAACTTTGCTGGGA TCCTGTCCCAGGGTCTTCGGATAGCCCCGCCTGAAGCGCCCGTGACAGGCTACATGTTTGGTAAAGGGATCTATT TCGCTGACATGGTCTCCAAGAGTGCCAACTACTGCCATACGTCTCAGGGAGACCCAATAGGCTTAATCCTGTTGG GAGAAGTTGCCCTTGGAAACATGTATGAACTGAAGCACGCTTCACATATCAGCAAGTTACCCCAAGGGCAAGCACA GTGTCAAAGGTTTGGGCAAAACTACCCCTGATCCTTCAGCTAACATTAGTCTGGATGGTGTAGACGTTCCTCTTG GGACCGGGATTTCATCTGGTGTGAATGACACCTCTCTACTATATAACGAGTACATTGTCTATGATATTGCTCAGG TAAATCTGAAGTATCTGCTGAAACTGAAATTCAATTTTAAGACCTCCCTGTGGTAATTGGGAGAGGTAGCCGAGT CACACCCGGTGGCTCTGGTATGAATTCACCCGAAGCGCTTCTGCACCAACTCACCTGGCCGCTAAGTTGCTGATG GGTAGTACCTGTACTAAACCACCTCAGAAAGGATTTTACAGAAACGTGTTAAAGGTTTTCTCTAACTTCTCAAGT ACTGACATAGAGAAAAGGCTGGAGAGAGATTCTGTTGCATAGACTAGTCCTATGGAAAAAACCAAGCTTCGTTAG AATGTCTGCCTTACTGGTTTCCCCAGGGAAGGAAAAATACACTTCCACCCTTTTTTCTAAGTGTTCGTCTTTAGT

637/6881 FIGURE 593B

AGACAGAAGCTAGTCCCCCCTCTGAATTTTACTGATGAAGAAACTGAGGCCACAGAGCTAAAGTGACTTTTCCCA AGGTCGCCCAGCGAGGACGTGGGACTTCTCAGACGTCAGGAGAGTGATGTGAGGGAGCTGTGTGACCATAGAAAG ACCAAGTGTCCGGGATTCAGACCTCTCTGCGGCCCCAAGTGTTCGTGGTGCTTCCAGAGGCAGGGCT<u>ATG</u>CTCAC ATTCATGGCCTCTGACAGCGAGGAAGAAGTGTGTGATGAGCGGACGTCCCTAATGTCGGCCGAGAGCCCCACGCC GCGCTCCTGCCAGGAGGCCAGGCCCCAGAGGATGGAGAACACTGCCCAGTGGAGAAGCCAGGAGAACGA GGAGGACGGTGAGGAGGACCCTGACCGCTATGTCTGTAGTGGGGTTCCCGGGCGGCCGCCAGGCCTGGAGGAAGA GCTGACCCTCAAATACGGAGCGAAGCACGTGATCATGCTGTTTTGTGCCTGTCACTCTGTGCATGATCGTGGTGGT AGCCACCATCAAGTCTGTGCGCTTCTACACAGAGAAGAATGGACAGCTCATCTACACGACATTCACTGAGGACAC ACCCTCGGTGGGCCAGCGCCTCCTCAACTCCGTGCTGAACACCCTCATCATGATCAGCGTCATCGTGGTTATGAC CATCTTCTTGGTGGTGCTCTACAAGTACCGCTGCTACAAGTTCATCCATGGCTGGTTGATCATGTCTTCACTGAT GCTGCTGTTCCTCTTCACCTATATCTACCTTGGGGAAGTGCTCAAGACCTACAATGTGGCCATGGACTACCCCAC CCTCTTGCTGACTGTCTGGAACTTCGGGGCAGTGGGCATGGTGCATCCACTGGAAGGGCCCTCTGGTGCTGCA GCAGGCCTACCTCATCATGATCAGTGCGCTCATGGCCCTAGTGTTCATCAAGTACCTCCCAGAGTGGTCCGCGTG GGTCATCCTGGGCCCCATCTCTGTGTATGATCTCGTGGCTGTGCTGTGTCCCAAAGGGCCTCTGAGAATGCTGGT AGAAACTGCCCAGGAGAGAAATGAGCCCATATTCCCTGCCCTGATATACTCATCTGCCATGGTGTGGACGGTTGG CATGGCGAAGCTGGACCCCTCCTCTCAGGGTGCCCTCCAGCTCCCCTACGACCCGGAGATGGAAGAAGACTCCTA TGACAGTTTTGGGGAGCCTTCATACCCCGAAGTCTTTGAGCCTCCCTTGACTGGCTACCCAGGGGAGGAGCTGGA GGAAGAGGAGGAAAGGGGCGTGAAGCTTGGCCTCGGGGACTTCATCTTCTACAGTGTGCTGGTGGGCAAGGCGGC TGCCACGGGCAGCGGGACTGGAATACCACGCTGGCCTGCTTCGTGGCCATCCTCATTGGCTTGTGTCTGACCCT $\verb|CCTGCTGCTGTGTTCAAGAAGGCGCTGCCCGCCCTCCCCATCTCCATCACGTTCGGGCTCATCTTTACTT|\\$ $\tt CTCCACGGACAACCTGGTGCGGCCGTTCATGGACACCCTGGCCTCCCATCAGCTCTACATC\underline{\textbf{TGA}} \tt GGGACATGGTG$ TGCCACAGGCTGCAAGCTGCAGGGAATTTTCATTGGATGCAGTTGTATAGTTTTACACTCTAGTGCCATATATTT TTAAGACTTTTCTTTCCTTAAAAAATAAAGTACGTGTTTACTTGGTGAGGAGGAGGCAGAACCAGCTCTTTGGTG TTATCCAGATGAACTGAGAAGGTCAGATTAGGGCGGGGAGAAGAGCATCCGGCATGAGGGCTGAGATGCGCAAAG TCCCAATGCTTTGTCCATGATGTCCTTGTTATTTTATTGCCTTTAGAAACTGAGTCCTGTTCTTGTTACGGCAGT

MLTFMASDSEEEVCDERTSLMSAESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVPGRPPGL EEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTTFTEDTPSVGQRLLNSVLNTLIMISVIV VMTIFLVVLYKYRCYKFIHGWLIMSSLMLLFLFTYIYLGEVLKTYNVAMDYPTLLLTVWNFGAVGMVCIHWKGPL VLQQAYLIMISALMALVFIKYLPEWSAWVILGAISVYDLVAVLCPKGPLRMLVETAQERNEPIFPALIYSSAMVW TVGMAKLDPSSQGALQLPYDPEMEEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEERGVKLGLGDFIFYSVLVG KAAATGSGDWNTTLACFVAILIGLCLTLLLLAVFKKALPALPISITFGLIFYFSTDNLVRPFMDTLASHQLYI

AGACAGAAGCTAGTCCCCCCTCTGAATTTTACTGATGAAGAAACTGAGGCCACAGAGCTAAAGTGACTTTTCCCA AGGTCGCCCAGCGAGGACGTGGGACTTCTCAGACGTCAGGAGAGTGATGTGAGGGAGCTGTGTGACCATAGAAAG ACCAAGTGTCCGGGATTCAGACCTCTCTGCGGCCCCAAGTGTTCGTGGTGCTTCCAGAGGCAGGGCT<u>ATG</u>CTCAC ATTCATGGCCTCTGACAGCGAGGAAGAAGTGTGTGATGAGCGGACGTCCCTAATGTCGGCCGAGAGCCCCACGCC GCGCTCCTGCCAGGAGGCCAGGGCCCAGAGGATGGAGAGACACTGCCCAGTGGAGAAGCCAGGAGAACGA GGAGGACGGTGAGGAGGACCCTGACCGCTATGTCTGTAGTGGGGTTCCCGGGCGGCCGCCAGGCCTGGAGGAAGA GCTGACCCTCAAATACGGAGCGAAGCACGTGATCATGCTGTTTTGTGCCTGTCACTCTGTGCATGATCGTGGTGGT AGCCACCATCAAGTCTGTGCGCTTCTACACAGAGAAGAATGGACAGCTCATCTACACGACATTCACTGAGGACAC ACCCTCGGTGGCCAGCGCCTCCTCAACTCCGTGCTGAACACCCTCATCATGATCAGCGTCATCGTGGTTATGAC CATCTTCTTGGTGGTGCTCTACAAGTACCGCTGCTACAAGTTCATCCATGGCTGGTTGATCATGTCTTCACTGAT GCTGCTGTTCCTCTTCACCTATATCTACCTTGGGGAAGTGCTCAAGACCTACAATGTGGCCATGGACTACCCCAC GCAGGCCTACCTCATCATGATCAGTGCGCTCATGGCCCTAGTGTTCATCAAGTACCTCCCAGAGTGGTCCGCGTG GGTCATCCTGGGCGCCCATCTCTGTGTATGATCTCGTGGCTGTGCTGTGTCCCAAAGGGCCTCTGAGAATGCTGGT AGAAACTGCCCAGGAGAAATGAGCCCATATTCCCTGCCCTGATATACTCATCTGCCATGGTGTGGACGGTTGG CATGGCGAAGCTGGACCCCTCCTCTCAGGGTGCCCTCCAGCTCCCCTACGACCCGGAGATGGAAGACTCCTATGA CAGTTTTGGGGAGCCTTCATACCCCGAAGTCTTTGAGCCTCCCTTGACTGCTACCCAGGGGAGGAGCTGGAGGA $\tt CACGGCAGCGGGGACTGGAATACCACGCTGGCCTGCTTCGTGGCCATCCTCATTGGCTTGTGTCTGACCCTCCT$ GCTGCTTGCTGTGTTCAAGAAGGCGCTGCCCGCCCTCCCCATCTCCATCACGTTCGGGCTCATCTTTTACTTCTC CACGGACAACCTGGTGCGGCCGTTCATGGACACCCTGGCCTCCCATCAGCTCTACATC<u>TGA</u>GGGACATGGTGTGC CACAGGCTGCAAGCTGCAGGGAATTTTCATTGGATGCAGTTGTATAGTTTTACACTCTAGTGCCATATATTTTTA AGACTTTTCTTTCCTTAAAAAATAAAGTACGTGTTTACTTGGTGAGGAGGAGGAGCAGAACCAGCTCTTTGGTGCCA GCTGTTTCATCACCAGACTTTGGCTCCCGCTTTGGGGAGCGCCTCGCTTCACGGACAGGAAGCACAGCAGGTTTA ${\tt TCCAGATGAACTGAGAAGGTCAGATTAGGGCGGGGAGAAGAGCATCCGGCATGAGGGCTGAGATGCGCAAAGAGT}$ CAATGCTTTGTCCATGATGTCCTTGTTATTTTATTGCCTTTAGAAACTGAGTCCTGTTCTTGTTACGGCAGTCAC ACTGCTGGGAAGTGGCTTAATAGTAATATCAATAAATAGATGAGTCCTGTTAGAAAAA

MLTFMASDSEEEVCDERTSLMSAESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVPGRPPGL EEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTTFTEDTPSVGQRLLNSVLNTLIMISVIV VMTIFLVVLYKYRCYKFIHGWLIMSSLMLLFLFTYIYLGEVLKTYNVAMDYPTLLLTVWNFGAVGMVCIHWKGPL VLQQAYLIMISALMALVFIKYLPEWSAWVILGAISVYDLVAVLCPKGPLRMLVETAQERNEPIFPALIYSSAMVW TVGMAKLDPSSQGALQLPYDPEMEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEERGVKLGLGDFIFYSVLVGK AAATGSGDWNTTLACFVAILIGLCLTLLLLAVFKKALPALPISITFGLIFYFSTDNLVRPFMDTLASHQLYI WO 2004/030615 PCT/US2003/028547

642/6881 FIGURE 598A

TATACTTCGCTACTTGGCTAGAGTTGCAACTACAGCTGGGTTATATGGCTCTAATCTGATGGAACATACTGAGAT TGATCACTGGTTGGAGTTCAGTGCTACAAAATTATCTTCATGTGATTCCTTTACTTCTACAATTAATGAACTCAA TCATTGCCTGTCTCTGAGAACATACTTAGTTGGAAACTCCTTGAGTTTAGCAGATTTATGTGTTTTGGGCCACCCT AAAAGGAAATGCTGCCTGGCAAGAACAGTTGAAACAGAAGAAAGCTCCAGTTCATGTAAAACGTTGGTTTGGCTT TCTTGAAGCCCAGCAGGCCTTCCAGTCAGTAGGTACCAAGTGGGATGTTTCAACAACCAAAGCTCGAGTGGCACC TGAGAAAAAGCAAGATGTTGGGAAATTTGTTGAGCTTCCAGGTGCGGAGATGGGAAAGGTTACCGTCAGATTTCC TCCAGAGGCCAGTGGTTACTTACACATTGGGCATGCAAAAGCTGCTCTTCTGAACCAGCACTACCAGGTTAACTT TAAAGGGAAACTGATCATGAGATTTGATGACACAAATCCTGAAAAAGAAAAGGAAGATTTTGAGAAGGTTATCTT GGAAGATGTTGCAATGTTGCATATCAAACCAGATCAATTTACTTATACTTCGGATCATTTTGAAACTATAATGAA GTATGCAGAGAAGCTAATTCAAGAAGGGAAGGCTTATGTGGATGATACTCCTGCTGAACAGATGAAAGCAGAACG TGAGCAGAGGATAGAATCTAAACATAGAAAAAACCCTATTGAGAAGAATCTACAAATGTGGGAAGAAATGAAAAA AGGGAGCCAGTTTGGTCAGTCCTGTTTGTTTGCGAGCAAAAATTGACATGAGTAGTAACAATGGATGCATGAGAGA TTTTGCCTGCCCCATAGTTGACAGCATCGAAGGTGTTACACATGCCCTGAGAACAACAGAATACCATGACAGAGA TGAGCAGTTTTACTGGATTATTGAAGCTTTAGGCATAAGAAAACCATATATTTGGGAATATAGTCGGCTAAATCT AAGATTTCCTACGGTTCGTGGTGTACTGAGAAGAGGGGTTGAAGGACTGAAACAGTTTATTGCTGCTCA GGGCTCCTCACGTTCAGTCGTGAACATGGAGTGGGACAAAATCTGGGCGTTTAACAAAAAGGTTATTGACCCAGT GGCTCCACGATATGTTGCATTACTGAAGAAAGAAGTGATCCCAGTGAATGTACCTGAAGCTCAGGAGGAGATGAA AGAAGTAGCCAAACACCCAAAGAATCCTGAGGTTGGCTTGAAGCCTGTGTGGTATAGTCCCAAAGTTTTCATTGA AGGTGCTGATGCAGAGACTTTTTCGGAGGGTGAGATGGTTACATTTATAAATTGGGGCAACCTCAACATTACAAA AATACACAAAAATGCAGATGGAAAAATCATATCTCTTGATGCAAAGTTGAATTTGGAAAACAAAGACTACAAGAA AACCACTAAGGTCACTTGGCTTGCAGAGACTACACATGCTCTTCCTATTCCAGTAATCTGTGTCACTTATGAGCA CTTGATCACAAAGCCAGTGCTAGGAAAAGACGAGGACTTTAAGCAGTATGTCAACAAGAACAGTAAGCATGAAGA GCTAATGCTAGGGGATCCCTGCCTTAAGGATTTGAAAAAAGGAGATATTATACAACTCCAGAGAAGAGGATTCTT CATATGTGATCAACCTTATGAACCTGTTAGCCCATATAGTTGCAAGGAAGCCCCGTGTGTTTTGATATACATTCC TGATGGGCACACAAGGAAATGCCAACATCAGGGTCAAAGGAAAAGACCAAAAGTAGAAGCCACAAAAAATGAGAC CTCTGCTCCTTTTAAGGAAAGACCAACACCTTCTCTGAATAATAATTGTACTACATCTGAGGATTCCTTGGTCCT TTACAATAGAGTGGCTGTTCAAGGAGATGTGGTTCGTGAATTAAAAGCCAAGAAAGCACCAAAGGAAGATGTAGA TGCAGCTGTAAAACAGCTTTTGTCTTTGAAAGCTGAATATAAGGAGAAAACTGGCCAGGAATATAAACCTGGAAA CCCTCCTGCTGAAATAGGACAGAATATTTCTTCTAATTCCTCAGCAAGTATTCTGGAAAGTAAATCTCTGTATGA XXXXXXXXXXXXXXXXXCTTCTCAAGGGGAAGTAGTTCGGAAACTTAAAACTGAAAAAGCCCCTAAGGATCAAGT AGATATAGCTGTTCAAGAACTCCTTCAGCTAAAGGCACAGTACAAGTCTTTGATAGGAGTAGAGTATAAGCCTGT TCAGAAACAAAATGATGGCCAAAGGAAAGACCCTTCTAAAAACCAAGGAGGTGGGCTCTCATCAAGTGGAGCAGG AGAAGGGCAGGGGCCTAAGAAACAGACCAGGTTGGGTCTTGAGGCAAAAAAAGAAGAAAATCTTGCTGATTGGTA TTCTCAGGTCATCACAAAGTCAGAAATGATTGAATACCATGACATAAGTGGCTGTTATATTCTTCGTCCCTGGGC CTATGCCATTTGGGAAGCCATCAAGGACTTTTTTGATGCTGAGATCAAGAAACTTGGTGTTGAAAACTGCTACTT CCCCATGTTTGTGTCTCAAAGTGCATTAGAGAAAGAGAGACTCATGTTGCTGACTTTGCCCCAGAGGTTGCTTG GGTTACAAGATCTGGCAAAACCGAGCTGGCAGAACCAATTGCCATTCGTCCTACTAGTGAAACAGTAATGTATCC TGCATATGCAAAATGGGTACAATCACACAGAGACCTGCCCATCAAGCTCAATCAGTGGTGCAATGTGGTGCGTTG GGAATTCAAGCATCCTCAGCCTTTCCTACGTACTCGTGAATTTCTTTGGCAGGAAGGGCACAGTGCTTTTGCTAC CATGGAAGAGGCAGCGGAAGAGGTCTTGCAGATACTTGACTTATATGCTCAGGTATATGAAGAACTCCTGGCAAT TCCTGTTGTTAAAGGAAGAAAGGAAAAGGAAAAATTTGCAGGAGGAGACTATACAACTACAATAGAAGCATT TATATCTGCTAGTGGAAGAGCTATCCAGGGAGGAACATCACATCATTTAGGGCAGAATTTTTCCAAAATGTTTGA

643/6881 FIGURE 598B

PCT/US2003/028547

644/6881 FIGURE 599A

AGTAGCTGCGCGCAGGGGCGAGCGAAGGCTGCGGCGCGTCGGGTACGCGCACACGTTGCATCTTCTTCTTT GCTCTCTCTGACCGTGAATTCAGGAGACCCTCCGCTAGGAGCTTTGCTGGCAGTAGAACACGTGAAAGACGATGT CAGCATTTCCGTTGAAGAAGGGAAAGAGAATATTCTTCATGTTTCTGAAAATGTGATATTCACAGATGTGAATTC TATACTTCGCTACTTGGCTAGAGTTGCAACTACAGCTGGGTTATATGGCTCTAATCTGATGGAACATACTGAGAT TGATCACTGGTTGGAGTTCAGTGCTACAAAATTATCTTCATGTGATTCCTTTACTTCTACAATTAATGAACTCAA TCATTGCCTGTCTCTGAGAACATACTTAGTTGGAAACTCCTTGAGTTTAGCAGATTTATGTGTTTTGGGCCACCCT AAAAGGAAATGCTGCCTGGCAAGAACAGTTGAAACAGAAGAAAGCTCCAGTTCATGTAAAACGTTGGTTTGGCTT TCTTGAAGCCCAGCAGGCCTTCCAGTCAGTAGGTACCAAGTGGGATGTTTCAACAACCAAAGCTCGAGTGGCACC TGAGAAAAAGCAAGATGTTGGGAAATTTGTTGAGCTTCCAGGTGCGGAGATGGGAAAGGTTACCGTCAGATTTCC ${\tt TCCAGAGGCCAGTGGTTACTTACACATTGGGCATGCAAAAGCTGCTCTTCTGAACCAGCACTACCAGGTTAACTTACCAGGTTAACTTACACATTGGGCATGCAAAAGCTGCTCTTCTGAACCAGCACTACCAGGTTAACTTACACATTGGGCATGCAAAAGCTGCTCTTCTGAACCAGCACTACCAGGTTAACTTACACATTGGGCATGCAAAAGCTGCTCTTCTGAACCAGCACTACCAGGTTAACTTACACATTGGGCATGCAAAAAGCTGCTCTTCTGAACCAGCACTACCAGGTTAACTTACACTTACACATTGGGCATGCAAAAAGCTGCTCTTCTTGAACCAGCACTACCAGGTTAACTTACACTTACACATTACATTACACATTACACATTACATTACATTACACATTACATTACACATTACACATTACATTACATTACACATTACACATTACACATTACA$ TAAAGGGAAACTGATCATGAGATTTGATGACACAAATCCTGAAAAAGGAAAAGGAAGATTTTGAGAAGGTTATCTT GGAAGATGTTGCAATGTTGCATATCAAACCAGATCAATTTACTTATACTTCGGATCATTTTGAAACTATAATGAA GTATGCAGAAGCTAATTCAAGAAGGGAAGGCTTATGTGGATGATACTCCTGCTGAACAGATGAAAGCAGAACG TGAGCAGAGGATAGACTCTAAACATAGAAAAAACCCTATTGAGAAGAATCTACAAATGTGGGAAGAAATGAAAAA AGGGAGCCAGTTTGGTCAGTCCTGTTGTTTGCGAGCAAAAATTGACATGAGTAACAATGGATGCATGAGAGA TTTTGCCTGCCCCATAGTTGACAGCATCGAAGGTGTTACACATGCCCTGAGAACAACAGAATACCATGACAGAGA TGAGCAGTTTTACTGGATTATTGAAGCTTTAGGCATAAGAAAACCATATATTTTGGGAATATAGTCGGCTAAATCT AAGATTTCCTACGGTTCGTGGTGTACTGAGAAGAGGGATGACAGTTGAAGGACTGAAACAGTTTATTGCTGCTCA GGGCTCCTCACGTTCAGTCGTGAACATGGAGTGGGACAAAATCTGGGCGTTTAACAAAAAGGTTATTGACCCAGT GGCTCCACGATATGTTGCATTACTGAAGAAAGAAGTGATCCCAGTGAATGTACCTGAAGCTCAGGAGGAGATGAA AGAAGTAGCCAAACACCCAAAGAATCCTGAGGTTGGCTTGAAGCCTGTGTGGTATAGTCCCAAAGTTTTCATTGA AGGTGCTGATGCAGAGACTTTTTCGGAGGGTGAGATGGTTACATTTATAAATTGGGGCAACCTCAACATTACAAA AATACACAAAAATGCAGATGGAAAAATCATATCTCTTGATGCAAAGTTGAATTTGGAAAACAAAGACTACAAGAA AACCACTAAGGTCACTTGCAGAGACTACACATGCTCTTCCTATTCCAGTAATCTGTGTCACTTATGAGCA CTTGATCACAAAGCCAGTGCTAGGAAAAGACGAGGACTTTAAGCAGTATGTCAACAAGAACAGTAAGCATGAAGA GCTAATGCTAGGGGATCCCTGCCTTAAGGATTTGAAAAAAGGAGATATTATACAACTCCAGAGAAGAGATTCTT CATATGTGATCAACCTTATGAACCTGTTAGCCCATATAGTTGCAAGGAAGCCCCGTGTGTTTTGATATACATTCC TGATGGGCACAAAGGAAATGCCAACATCAGGGTCAAAGGAAAAGACCAAAGTAGAAGCCACAAAAAAATGAGAC CTCTGCTCCTTTTAAGGAAAGACCAACACCTTCTCTGAATAATAATTGTACTACATCTGAGGATTCCTTGGTCCT TTACAATAGAGTGGCTGTTCAAGGAGATGTGGTTCGTGAATTAAAAGCCAAGAAAGCAACCAAAGGAAGATGTAGA TGCAGCTGTAAAACAGCTTTTGTCTTTGAAAGCTGAATATAAGGAGAAAACTGGCCAGGAATATAAACCTGGAAA CCCTCCTGCTGAAATAGGACAGAATATTTCTTCTAATTCCTCAGCAAGTATTCTGGAAAGTAAATCTCTGTATGA TGTAGAATGCTTACTGTCCCTGAAGGCTCAGTATAAAGAAAAAACTGGGAAGGAGTACATACCTGGTCAGCCCCC ATTATCTCAAAGTTCGGATTCAAGCCCAACCAGAAATTCTGAACCTGCTGGTTTAGAAACACCAGAAGCGAAAGT ACTTTTTGACAAGTAGCTTCTCAAGGGGAAGTAGTTCGGAAACTTAAAACTGAAAAAGCCCCTAAGGATCAAGT AGATATAGCTGTTCAAGAACTCCTTCAGCTAAAGGCACAGTACAAGTCTTTGATAGGAGTAGAGTATAAGCCTGT TCAGAAACAAAATGATGGCCAAAGGAAAGACCCTTCTAAAAACCAAGGAGGTGGGCTCTCATCAAGTGGAGCAGG AGAAGGGCAGGGCCTAAGAAACAGACCAGGTTGGGTCTTGAGGCAAAAAAAGAAGAAAATCTTGCTGATTGGTA TTCTCAGGTCATCACAAAGTCAGAAATGATTGAATACCATGACATAAGTGGCTGTTATATTCTTCGTCCCTGGGC CTATGCCATTTGGGAAGCCATCAAGGACTTTTTTGATGCTGAGATCAAGAAACTTGGTGTTGAAAACTGCTACTT CCCCATGTTTGTGTCTCAAAGTGCATTAGAGAAAGAGAAGACTCATGTTGCTGACTTTGCCCCAGAGGTTGCTTG GGTTACAAGATCTGGCAAAACCGAGCTGGCAGAACCAATTGCCATTCGTCCTACTAGTGAAACAGTAATGTATCC TGCATATGCAAAATGGGTACAGTCACACAGAGACCTGCCCATCAAGCTCAATCAGTGGTGCAATGTGGTGCGTTG

645/6881 FIGURE 599B

GGAATTCAAGCATCCTCAGCCTTTCCTACGTACTCGTGAATTTCTTTGGCAGGAAGGGCACAGTGCTTTTGCTAC CATGGAAGAGGCAGCGGAAGAGGTCTTGCAGATACTTGACTTATATGCTCAGGTATATGAAGAACTCCTGGCAAT TCCTGTTGTTAAAGGAAGAAAGACGGAAAAGGAAAAATTTGCAGGAGGAGACTATACAACTACAATAGAAGCATT TATATCTGCTAGTGGAAGAGCTATCCAGGGAGGAACATCACATCATTTAGGGCAGAATTTTTCCAAAATGTTTGA AATCGTTTTTGAAGATCCAAAGATACCAGGAGAGAGCAATTTGCCTATCAAAACTCCTGGGGCCTGACAACTCG GGTGGTGATTATTCCTTGTGGCATTACCAATGCACTTTCTGAAGAAGAAGAAGAAGCGCTGATTGCAAAATGCAA TGATTATCGAAGGCGATTACTCAGTGTTAACATCCGCGTTAGAGCTGATTTACGAGATAATTATTCTCCAGGTTG GAAATTCAATCACTGGGAGCTCAAGGGAGTTCCCATTAGACTTGAAGTTGGGCCACGTGATATGAAGAGCTGTCA GTTTGTAGCCGTCAGACGAGATACTGGAGAAAAGCTGACAGTTGCTGAAAATGAGGCAGAGACTAAACTTCAAGC TATTTTGGAAGACATCCAGGTCACCCTTTTCACAAGGGCTTCTGAAGACCTTAAGACTCATATGGTTGTGGCTAA TACAATGGAAGACTTTCAGAAGATACTAGATTCTGGAAAGATTGTTCAGATTCCATTCTGTGGGGAAATTGACTG CCTTTGCATCCCCTTCAAACCACTCTGTGAACTGCAGCCTGGAGCCAAATGTGTCTGTGGCAAGAACCCTGCCAA GTACTACACCTTATTTGGTCGCAGCTACTGAGGGATGAACGAAAGCCCCCTCTTCAACTCCTCTCACTTTTTAAA GCATTGATATTAGTATCTTCTCAGATACAGACCGTTTTATGATTTTTTAAAAAGTAAAAGTTCTAAAATGAAGTC ACACAGGACAATTATTCTTATGCCTAAGTTAACAGTGGATAAAAGACTTTTCTGTAAACAACTCCAGTAATAAAT

AGTCGGGGTGGTGGGAGAAGGAGGAGGCGGCAAATCACTTATAAATGGCGCGGAAGCAGGACCCGAAGCCTAAA TTCCAGGAGGGTGAGCGAGTGCTGTCTTTCATGGGCCTCTTCTTTATGAAGCAAAGTGTGTAAAGGTTGCCATA AAGGACAAACAAGTGAAATACTTCATACATTACAGTGGTTGGAATAAAATTGGGATGAGTGGGTTCCGGAGAGC AGAGTACTCAAATACGTGGACACCAATTTGCAGAAACAGCGAGAACTTCAAAAAGCCAATCAGGAGCAGTATGCA GAGGGGAAGATGAGAGGGGCTGCCCCAGGAAAGAAGACATCTGGTCTGCAACAGAAAAATGTTGAAGTGAAAACG AAAAAGAACAAACAGAAAACACCTGGAAATGGAGATGGTGGCAGTACCAGTGAGACCCCTCAGCCTCCTTGGAAG AAAAGGGCCCGGGTAGATCCTACTGTTGAAAATGAGGAAACATTCATGAACAGAGTTGAAGTTAAAGTAAAGATT CCTGAATAGCTAAAACCGTGGCTTGTTGATGACTGGGACTTAATTACCAGGCAAAAACAGCTCTTTTATCTTCCT GCCAAGAAGAATGTGGATTCCATTCTTGAGGATTATGCAAATTACAAGAAATCTCGTGGAAACACAGATAATAAG GAGTATGCGGTTAATGAAGTTGTGGCAGGGATAAAAGAATACTTCAACGTAATGTTGGGTACCCAGCTACTCTAT AAATTTGAGAGACCACAGTATGCCGAAATTCTTGCAGATCATCCCGATGCACCCATGTCCCAGGTGTATGGAGCG CCACATCTCCTGAGATTATTTGTACGAATTGGAGCAATGTTGGCCTATACACCTCTGGATGAGAAGAGCCTTGCT TTATTACTCAATTATCTTCACGATTTCCTAAAGTACCTGGCAAAGAATTCTGCAACTTTGTTTAGTGCCAGCGAT TCATTTCAAAGTTGCTGCCAGTGTTTTCAATGATGGACAACAGAGGGATATGCTGTAGAGTGTTTTATTGCCTAG TTGACAAAGCTGCTTTTGAATGCTGGTGGTTCTATTCCTTTGACACTATGCACTTTTATAATACATGTTAATGCT ATATGACAAAATGCTCTGATTCCTAGTGCCAAAGGTTCAATTCAGTGTATATAACTGAACACACTCATCCATTTG TGCTTTTTTTTTTTTTTTTTTTTTTTTTATGGTGCTTAAAGTAAAGAGCCCATCCTTTGCAAGGCATCCATGTTGTTACTTAGG CATTTTATCTTGGCTCAAATTGTTGAAGAATGGTGGCTTGTTTCATGGTTTTTTGTATTTGTGTCTAATGCACGTT TTAACATGATAGATGCAATGCACTGTGTAGCTAGTTTTCTGGAAAAGTCAATCTTTTAGGAATTGTTTTTCAGAT CTTCAATAAATTTTTTTTTTTAAATTTC

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TTTTGCGCTCGGACCTTCGCCAGAGGGGCCGGGACATC<u>ATG</u>ACGGTGGGAGCCAGGCTCCGAAGCAAGGCGGAGA ACCTGGAGTACGCGGACGAGGCGGAGGCGGCCGAGAGCGGACGAGCGGGACGAGCGGGGCCCGGGGA CCCGGGGCGCGCGGAGGGTGCACTTCGCCCTCCTGCCCGAGCGCTACGAGCCACTGGAGGAGCCGGCGCGCGAGCG AGCAGCCCAGGAAGAGGTACCGGAGGAAGCTGAAGAAGTACGGCAAGAATGTCGGGAAGGTCATCAAAGGAT GCCGCTACGTGGTCATCGGCCTGCAAGGCTTCGCTGCAGCCTACTCCGCCCCGTTTGCGGTAGCCACCAGCGTGG ${\tt TATCCTTCGTGCGC} \underline{{\tt TAA}} {\tt TGGGAGCTGCTGTGGCAGGTGCCCCCAGAGTGAACGGGAGCCCCTGCTGTGGGAACTT}$ ACATTAGTATGATGAGTGAGTCATCCCTGCCCATCTGCTGAGCTTCTCACATCTCTCAGTCACACGTGGACCCAG TGGTCAATCCTGCAGAGAATTCGGCGGAGGTTAGGTTTGGGAGTGGAGCTAGCGTGCTAAAGCCAGAGCCTTCAC GTGAAGGTGGCAGCACTGGGGCGGAAGCCAACACTCAACAGATGCAAGCAGTGTGGGTGTGCAGCAGAACAGTG ATCTTGGGGGAGGAAGAGGTTTACTAGAGTCAGATGATTTGCTGTATTCTCCTGAAAGGTCGTAGGCTGACAG GCGCTCACATTCCTTGGCTGCCTCGGTTCTGAGGGCAGCTAAGGAGCTGTTTATTCCTCAAGTCATGCTCCCCGA GATGCTTTGAAAACTGTGTTGGCAGTGTGGCATGACTGTTTAAAGTAGATAAAACCTTGTCATTTTACCCCATCC TGGCTAAGGGACTACTCTGGAGGGCTCTTCTGCCTGGCATTGCCCACTTCGGCCCAGCCACGTGTTTGCAGCGAC CAGAGTCCCTGCAAAGGTGTGGCTGGCTGTGGTCAGGGTGCTACTAGCACCATCAGCGCACTCCCGCCATTGGCT AATGAGGCAAGAGGACATTGGAAGAGAAGTTTGCTGTCCAGGAGCCAGGTCTGGAGCATCAGTGTGAGGGAGT TCAGGTAGGCTGGGCCTGTGCCTCTAGGTAGGGACAAGGGAGGCTGGGTAGCCAGGGCTGGTGCTTAAAACCCCT GAGGCCATGAGCTCATTGGCTGCCTTTGTAGCATCCTGTCTTCTTCTGTGCTGCCTGGTTTGATCTCATCTCACC TGCTGAACAGGGAGATGAAAGGAGGTCCTCTTACCATACCCCTCTGCCAACCCCCCAGTAGGCCACTGTTCTGAC ACAGACAGAAAAAAGGAAGGGTAGAGGAGAAGGTTGAAGCTGTGGAGCTAGACTCTGCTTCACTTCCTGAAGCT TCAACTTCATGTCGAAGATTCACTGGGACCCAATTCCTGCATTGTTAATATTTGTGAGGAAAAGTGAAACAAGTG ATCTGGTTTTAGCCCAGATGATGAAAGTGGATATGGCACATTTTCACACACGTGAGATAATTACAGCTTGCCCCA AGTGAGAGCCTGTGCAGGCTGCTGACGAGCCCCAGGCAGCCCACAAGTTTCTCGTGGGGAGATGGAGGCAGAGCC CAGGGTAGGGGACAGAGCTGCTGGGGCCTTTCCTTGCCTGGGAATCTGTCCCAGGAAGAGCTTCCCCACTCCCAT CCCCCAAATTGGAAAAACCGTACATTCAAGCCTGTTTGGCCCTGAAATTCTTAAGAATCTGGTTAAGAATTAACT CACTAATGTCAAAAGTCAAAACCTCCTAGGGGTTGTCCTGGGAGTCAGGTTCACGGGTACAGAAGATGAATCTCA GATGTCACTCAACCTGAGCCGTCATTCTCTGTGGCAGGGCTGCCCTGGGTTTCTCTTACTCAATCCCTGGAGTGT CACACCTTACTGAGTATTGAGTTTTAGAGCTTTCGCTTGATGTGCTTGACCAAGAGACTTCTTTTGTATCCTTTT CTTGTCCTATGATGTAAATAAAAGCCTCGATTTATGT

 ${\tt MTVGARLRSKAESSLLRRGPRGRGRTEGDEEAAAILEHLEYADEAEAAAESGTSAADERGPGTRGARRVHFALLPERYEPLEEPAPSEQPRKRYRRKLKKYGKNVGKVIIKGCRYVVIGLQGFAAAYSAPFAVATSVVSFVR}$

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GCTGTTGCTACTGCAATCATTTGCACCAAACTGAGCCAGAGAAGTTCCCTCTTTTAACATAAAGAGTCAAGAAAT ${\tt TGGAGC} \underline{\textbf{ATG}} \texttt{GCTATGAGCAATGGAAACAATGATTTTGTGGTTCTGAGCAACAGCAGCATCGCAACCAGTGCTGCT}$ AACCCGAGTCCCCTCACCCCTGTGATGGAGACCATGCAGCCCAGCAGCTCACACCCAAAGAAGCAACAAGAACA AAAGTGAGTCCAAATGGATGCCTGCAACTTAATGGCACGGTCAAATCATCCTTTCTGCCTTTAGACAACCAAAGA ATGCCTCAGATGTTACCCCAATGCTGCCATCCTTGCCCATACCATCACCCTTTGACTAGCCATAGCAGTCACCAA TCTGCATCTCTTTGTCCAAATCATTCACCTGTGTATCAGACTACGTGCTGTCTTCAGCCCTCTCCATCCTTCTGC $\tt CTGCATCATCCGTGGCCTGACCATTTTCAGCATCAGCCTGTGCAACAGCACATAGCCAACATAAGACCATCCAGA$ TTCATCGTAGTCTGTGCCTTGGTTGGAGTATTAGTGCCAGAGCTCCCTGACTTCTCTGATCCATTGCTGGGTTTT GAACCAAGAGGAACAGCAATAGGCCAGAGATTGGTCACATGGAATAATATGGTGAAAAATACAGGATACAAAGCA ACATTAGCAAATTATCCCTTTAAATATGCAGATGAACAAGCCAAAAGCCATCGGGATGATAGATGGTCAGATGAT CATTATGAAAGAGAGAAAAGAGAAGTTGACTGGAACTTCCACAAGGACAGCTTTTTCTGCGACGTTCCAAGTGAC CGATATTCCAGAGTGGTATTTACTTCATCTGGAGGGGAGACATTATGGAATTTACCTGCAATTAAATCAATGTGC TGCCCCAGCTGGACACTGGGAAACTACATCGCCATTCTGAACAATAGATCGTCCTGTCAGAAAATAGTTGAGCGA GACGTTTCTCATACCTTGAAGCTGCTTCGGACTTGTGCCAAACACTACCAAAATGGCACTCTGGGGCCAGACTGC TGGGACATGGCAGCCAGAAGAAGGACCAGCTCAAGTGCACCAATGTGCCACGCAAATGTACCAAGTACAATGCT GTGTACCAGATCCTCCATTACTTGGTGGACAAAGACTTTATGACCCCAAAGACGGCTGACTATGCCACGCCAGCT TTAAAATACAGCATGCTCTTCTCCCCACAGAGAAAGGGGGAGAGCATGATGAACATTTACTTGGACAACTTTGAA TATCTTCTAATGGATACTGTGTATCCTGCCATAGCCATTGTGATTGTCCTTTTAGTTATGTGTGTCTACACCAAG

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MAMSNGNNDFVVLSNSSIATSAANPSPLTPCDGDHAAQQLTPKEATRTKVSPNGCLQLNGTVKSSFLPLDNQRMPQMLPQCCHPCPYHHPLTSHSSHQECHPEAGPAAPSALASCCMQPHSEYSASLCPNHSPVYQTTCCLQPSPSFCLHHPWPDHFQHQPVQQHIANIRPSRPFKLPKSYAALIADWPVVVLGMCTMFIVVCALVGVLVPELPDFSDPLLGFEPRGTAIGQRLVTWNNMVKNTGYKATLANYPFKYADEQAKSHRDDRWSDDHYEREKREVDWNFHKDSFFCDVPSDRYSRVVFTSSGGETLWNLPAIKSMCNVDNSRIRSHPQFGDLCQRTTAASCCPSWTLGNYIAILNNRSSCQKIVERDVSHTLKLLRTCAKHYQNGTLGPDCWDMAARRKDQLKCTNVPRKCTKYNAVYQILHYLVDKDFMTPKTADYATPALKYSMLFSPTEKGESMMNIYLDNFENWNSSDGVTTITGIEFGIKHSLFQDYLLMDTVYPAIAIVIVLLVMCVYTKSMFITLMTMFAIISSLIVS

GCTTCCGCCTCGGCTCCTCTTCCTGCCGGCATCCGGGATCCCTACGTCCCCGCGTCCCCCGAGCGCTCGGAGCCTA CGCGCCCAGCGCTACCGAAACCCAGAGTCCTGCGCCCTGGAGTCCCCGCGCCCCGGAGCCCCGAGCACCCGGGAGT CCCGAGCCTCGCGCCCCGGAGTGCCCGAGCCTGCGCCGCCGCACCCGGATACCCCGGGTCCCCGCGAGCTGCCGA GGCCGCCGCCGCCGCGGGACAGTACCGCCTTCCTCCCCTCTGTCCGCGCCATGGCCGCCCCCGACCTGTC CACCAACCTCCAGGAGGAGGCCACCTGCGCCATCTGCCTCGACTACTTCACGGATCCGGTGATGACCGACTGCGG CCACAACTTCTGCCGCGAGTGCATCCGGCGCTGCTGGGGCCAGCCCGAGGCCCGTACGCGTGCCCCGAGTGCCGC CCTCCTGTGTGCGGCCTGCGAGCGCTCTGGGGAGCACTGGGCGCACCGCGTTGGCCGCTGCAGGACGCGGCCGAA GACCTCAAGGCGAAGCTGGAGAAGTCACTGGAGCATCTCCGGAAGCAGATGCAGGATGCGTTGCTGTTCCAAGCC CAGGCGGATGAGACCTGCGTCTTGTGGCAGAAGATGGTGGAGAGCAGCGGCAGAACGTGCTGCGTGAGTTCGAGC GTCTTCGCCGTTTGCTGGCAGAGGGAGGGACAGCAGCTGCTGCAGAGGCTGGAGAGGAGGAGCTGAAGGTGCTGC CCCGGCTGCGGGAGCCCACCTAGGCCAGCAGCAGCCCCACCTAGCTGAGCTCATCGCCGAGCTCGAGAG GCCGCTGCCAGCTGCCTGCGCTGCGGCTGCTGCAGGACATCAAGGACGCCCTGCGCAGGGTCCAGGATGTGAAGC TGCAGCCCCAGAAGTTGTGCCTATGGAGCTGAGGACCGTGTGCAGGGTCCCGGGACTGGTAGAGACACTGCGGA GGTTTCGAGGGGACGTGACCTTGGACCCGGACACCCTGAGCTGATCCTGTCTGAAGACAGGCGGAGCG TGCAGCGGGGGACCTACGGCAGGCCCTGCCGGACAGCCCAGAGCGCTTTGACCCCGGCCCCTGCGTGCTGGGCC AGGAGCGCTTCACCTCAGGCCGCCACTACTGGGAGGTGGAGGTTGGGGACCGCACCAGCTGGGCCCTGGGGGTGT GCAGGGAGAACGTGAACAGGAAGGAGAAGGGCGAGCTGTCCGCGGGCAACGGCTTCTGGATCCTGGTCTTCCTGG ACTACGAGGCTGGACATCTCTCTTCTACAGTGCCACCGATGGGTCACTGCTATTCATCTTTCCCGAGATCCCCT GTGGGTCCGGGGACACCCTGGCTCCCCAGTGACTCGGGCCCTCCTGGAGGAGTCCTGTTGCCTCTCCTGCCCCTC CAGGCCACTGAGTGTTTTGGCCACTTGGAGGACCTGGGAGGAGGGGGTGTGTCCTTTGAGCAAGAGGAGGAACTC CTGGTGCCTTTCTGAGCCTGCGTGGGAGAACCCCAATTCTAGCACTCCAGGAAACTGTGGGAGAGTGTGGGGCAG GCTCCGTCCTCCTGGGAGACCCCTCCAGCCACCGGGTGCCACTTAATGCCAACAGCCCTTACCAAAGCTGGGAG CCCCATTGCCCCGGCAGCTCTGGCCTGTGGTTCCAGAAGCTGAGAAAACTCCACTGGGGCTTGCAGAATCCAGGG TTCACCTAAGCTGCACAGTTCCTGCAGCTTTGTCAGCCCCCTGAAAGTCTTGTGTACCCCACCTCTGAAGATGCT CTGGGTGTGGCTGCTCTGGAAGAATTAGGAGGCCACCATAATAAGAGTCTTCAGAGAGATGATGGGAGGGGCCAG TGAGGACAGGAACAGAGAGTAGATGTCCTATAATAAAGGGGCTTCTGGGAGGTGCCTGGGCACAGATGTCTGTTC AGCAGGTGTGTGGGCCTAGAGGAGAGAGCAGAGCCCAGAAATGTCTTTTGCAGGCCCACGTTCTGACTTGAAGCT TTCGTGGGCATGTTGCCATTGGGTTTTGCCCTTGCAAAGGCTTCCTAGGTCTCCAGTGGCCCCTCAGGACCCAGG TTCTCAGAGCCTGGGGCATACAGAAGAAGGCAGGAGTTGATTTTTTGTGTTGGGTTTTGGGGTTTCTTTGTCCTCAA TGTCTAC

MELRTVCRVPGLVETLRRFRGDVTLDPDTANPELILSEDRRSVQRGDLRQALPDSPERFDPGPCVLGQERFTSGR HYWEVEVGDAPAGPWGCAGRT

CCGCAGGCAGTAGAGTGAAGCGCGCAGCTGCCAGGACTTGCGCGGTGACGTGCGCCGCTGCCAGGACCTTGCAGG TGGAGAGCATAGTTGCCAAAATCAAGGCGGAGGAGCGCACCGCCGCTAGGATCCAGGCGGAGAAGCCCACCGCGG CCAGGACCTAAGGATGCAGTACACTGCTGCCAGGATCTTGTCTGTGGAGCGCAGCGCGGCCAGGACCTCCGGCTG CAGCACACCGCTGCCAGGATCTTATCGGCAGAGCGCTCCGCGGTCCGGACCCCGCCCCGTGCGGTCCCGACCC CGCCCGTGCGCGTCCCCGGCGTTGGCGTCTTCGTCCTGTTGCTGGTCTCCGTCCGGTCGCCGGCCGTCTAGGTC TCCGGCCTCCCAGCCGCTCTGCGCCCTTGCCGGCCCCGCCGCCGCAGCCCTGGCGCTCCCTGCGGGCCCCG CCGAGGCCGCCTGCGCCCTGTGCCAGCGCGCGCCCCGGGAACCGGTGCGCGCCGACTGCGGCCACCGCTTCTGTC GGGCGTGCGTGCGCCTTCTGGGCCGAGGAGGACGGCCCTTCCCGTGCCCCGAGTGCGCCGACGACTGCTGGC CGCGCGACGGCCGGCCAGCGAGGCCGCGCTGCAGCTGCTGTGCCGCCGACGCCGGCCCGCTCTGCGCCGCCT GCCGTATGGCTGCGGGCCCCGAGCCGCCCGAGTGGGAACCGCGTGGAGGAGGCGCTGCGCGGCAAGGAGAACA AGGGGTCTGTGGAAATCATGAGAAAGGACTTGAA**TGA**CGCCCGGGACCTGCATGGCCAGGCAGAGTCAGCAGCTG CAGTGTGGAAGGGACACGTGATGGACCGTAGGAAGAAGGCACTGACCGACTACAAGAAGCTGCGGGCCTTCTTTG CTGAGCGGTTCAGGTCACTGCTGCAGGCGGTCTCGGAGCTGGAGAAGAAGCATCGCAACCTGGGCCTCAGCATGC GTGTCAGCGTGTGGCTGCCAGGGAAGCGTGGCAGGCGCCTTGGGTCCATCTACATAGTTGCGTGTTTTCAA CAATGTCCATTTATCCTTCACCCCGAGGCGTGTTTTGGGGGGCTGCAAACACCTCCCTGTGCTCCACCTGCCTCCG GCAAAGCTTGTAGCAGTAGCTCAGTTGCCTGCAGCATCCTTGTGTGTAGATAAATTAGTCGACAGAAACTCAGCA CTGGGGACAGGATTGCAAAGTCGGGGACATAGATGCAGACAGTTGTTGAGATTTTGGGGATAGCCGGGCTTGTGAG CGGTGCCCATTTCCAGATGAAGCCTTTCAGCCCTTCTGAGTCCCCGGCCCTTGGTGCGATGTCTGTGAGTTTGAC CCACCTGGCCTCTCCCCTGCCCTGGCCACCCTCCAGTGTCAAAGGAAACTTCCTCGTGACACGTGCTAAAGCA TGGTGAGGAGGACTTTGATTGGGACCATTGAGATGGGTGTGGGACCCTTTCCTTGGGGCCTGGGGGGAGATGGGG AGA

 ${\tt MQYTAARILS VERSAARTSGCSTPLPGSYRQSAPRSGPRPVRVPDPAPCASPALASSSCCWSPSGRRPSRSPALPSRSCALAGPAARSPGAPCGPRRGRLRPVPARAPGTGARRLRPPLLSGVRGALLGRGGRALPVPRVRRRLLAARRGARQAPAQPPPSGARGGGRGARARRPGQRGRAAAAVPRRRRPALRRLPYGCGPRAARVGTALEEGAARQGEQGVCGNHEKGLE}$

 ${\tt MSGPRPVVLSGPSGAGKSTLLKRLLQEHSGIFGFSVSHTTRNPRPGEENGKDYYFVTREVMQRDIAAGDFIEHAE} \\ {\tt FSGNLYGTSKVAVQAVQAMNRICVLDVDLQGVRNIKATDLRPIYISVQPPSLHVLEQRLRQRNTETEESLVKRLA} \\ {\tt AAQADMESSKEPGLFDVVIINDSLDQAYAELKEALSEEIKKAQRTGA} \\$

GGCACGAGGTCGGGCCTGGGTCCGACGGTAGTGGGTAGCGGGTTCCGGGTTGCGGGTTGCAAGCCGCA ${\tt GGCCCCAGGCAACTGCCTTCCCGGCGCC} \underline{{\tt ATC}} {\tt TTCGGCTCCAGTCGTGGAGGCGTGCGCGGGCAGGACCAGTT}$ CAACTGGGAGGACGTGAAGACTGACAAGCAGCGGGAGAACTACCTGGGCAACTCGCTGATGGCCCGGTAGGCCG CTGGCAGAAGGGCCGCGACCTCACCTGGTACGCCAAGGGCCGGGCCCCATGCGCGGGGCCCGAGCCGCGAGGAGGA ACTGGCAGCCGTGCGGGAGGCGGAGGCGCGCGCTGCTGGCCCCTTGGCTACAAGAACGTGAAGAAGCAGCC CACGGGCCTGAGCAAGGAGGACTTCGCGGAGGTCTGCAAGCGGGAAGGAGGCGACCCCGAGGAGAAGGGCGTGGA CCGGCTGCTGGGGCTGGGGAGCGCAAGTGGCTCCGTGGGCCGCTGGCGATGTCCCGAGAGGACAAGGAGGCCGC CAAACTGGGGCTGTCTGTGTTCACGCATCACCGCGTAGAGAGCGGCGGGCCCCGGGACCTCGGCAGCCTCGGCCAG GAGGAAGCCGCGGGCGGAGGATCAGACGGAAAGCAGTTGTGAGAGCCACAGGAAAAGCAAGAAGAAGAAGAA $\verb|CTCTCCCACATCTCCTGAGAGGCCCAGGCACCACCATGACTCCGACTCCAACTCCCCTGCTGTAAGAGGAG|\\$ ${\tt GAAGCGGGGACACAGTGGGGACAGGAGGCCCGTCTCGCAGGTGGCATGACAGAGGCTCTGAGGCC} {\tt TGA}{\tt TGGCT}$ GGGTGTGGGTGAAGCCCGAGGCTGCTCCTGTGGAAGTGGCTCTGGGGCACCAGCCTGTGGGGCTAAAGACTTGACA ${\tt GCTAGCTCTGGAGCAGCCGGCTTCCTGGAAAACCTCCAGGTTTCGCATACCAGGGATGGCCCCTGGCTTGGCCTG}$ CGAAGGTGAACCTGCCCAGATTTATCAGTAGAGGCTGGACTCCCTCTGTGTCCTGCCCATGGTTGCAGCAGCCAT GGGCCTATGAGCGGTCTAACTGTGGCCAAGTATGGTGACCTCTATTTTTCTTTATATTGACTCTTTGTATTTCAA

AGGAAGCCCTGCTTGATGAGCATGAGGCTCCACGGGGGCAGTGGCTGTGACGGTGAGTGCCACACAGAGCTGCCC ${\tt ACACTGGTGGAGGGAAGGCAGGGAGATACCAGGACCATCCGGAAGGGGCTGAGTGTCATTTGACAGGTGCCATGT}$ GAGCAGAGATGTGAAGGAGTGGCCCGGGACAATCAGGGCAGAATCCCTGAGGTGTCCCTGGCCAGTGTCCTTCCA ${\tt CATGGTGGGCCTGGATGCTGCAGGGAAGACCACGATCCTCTACAAGCTTAAGCTGGGTGAGATCGTGACCACCAT}$ GGACAAGATCCGGCCCCTGTGGCGCCACTACTTCCAGAACACACAAGGCCTGATCTTCGTGGTGGACAGCAATGA CAGAGAGCGTGTGAACGAGGCCCGTGAGGAGCTCATGAGGATGCTGGCCGAGGACGAGCTCCGGGATGCTGTCCT CCTGGTGTTCGCCAACAAGCAGGACCTCCCCAACGCCATGAATGCGGCCGAGATCACAGACAAGCTGGGGCTGCA CTCACTACGCCACAGGAACTGGTACATTCAGGCCACCTGCGCCACCAGCGGCGACGGGCTCTATGAAGGACTGGA ACTCTCATGTGGCAAACGTGCGGCTCGTGGTGTGAGTGCCAGAAGCTGCCTCCGTGGTTTGGTCACCGTGTGCAT ATGAGGCAGTTTCTGGTACTCCTATGCAATATTACTCAGCTTTTTTTATTGTAAAAAGAAAAATCAACTCACTGT TCAGTGCTGAGAGGGGATGTAGGCCCATGGGCACCTGGCCTCCAGGAGTCGCTGTGTTGGGAGAGCCGGCCACGC CCTTGGCTTTAGAGCTGTGTTGAAATCCATTTTGGTGGTTGTTTTTAACCCAAACTCAGTGCATTTTTTAAAAT AGTTAAGAATCCAAGTCGAGAACACTTGAACACACAGAAGGGAGACCCCGCCTAGCATAGATTTGCAGTTACGGC $\tt CTGGATGCCAGCCCAGCCGTGTTCCCCTCGGGAACATGAGGTGGTGGTGGCGCAGCAGACTGCGATCAAT$ TCTGCATGGTCACAGTAGAGATCCCCGCAACTCGCTTGTCCTTGGGTCACCCTGCATTCCATAGCCATGTGCTTG TCCCTGTGCTCCCACGGTTCCCAGGGGCCAGGCTGGGAGCCCACACCCCACTATGCCGCAGGCCGCCCTAC ${\tt CCACCTTCAGGCAGCCTATGGGACGCAGGGCCCCATCTGTCCCTCGGTCGCCGTGTGGCCAGAGTGGGTCCGTCG}$ TCCCCAACACTCGTGCTCGCTCAGACACTTTGGCAGGATGTCTGGGGCCTCACCAGCAGGAGCGCGTGCAAGCCG GCTGGAGCTGTTAAATTTATCTTGGGGAAACCTCAGAACTGGTCTATTTGGTGTCGTGGAACCTCTTACTGCTTT TAGCTATTAGAATAAAATCTCTTAACTATT

MGNIFANLFKGLFGKKEMRILMVGLDAAGKTTILYKLKLGEIVTTIPTIGFNVETVEYKNISFTVWDVGGQDKIR PLWRHYFQNTQGLIFVVDSNDRERVNEAREELMRMLAEDELRDAVLLVFANKQDLPNAMNAAEITDKLGLHSLRH RNWYIQATCATSGDGLYEGLDWLSNQLRNQK

664/6881 FIGURE 618A

GTGGGACCATCCAGTTGCAGGAAAACAAGCTTAACACGCCCACTGATTCTACATTATGCTCCTACCTCCCAGCAG CCTCTCCAGGCCCAGAACTTTCTCCAGTCAGCCTCTACAGACCAAGCTCATGACTCACAATGGCCTATTTAGGCC CATACCCTACCTCACGGCAGTCTCCGCAGATGAGCCTACTGCCTCACAACAGCCTCCACAGGCACAGCTCCATCG TTACAATGGCCTCTTTAGACCCAGCTCCTGCCTCCCAGCCTTCTCTCCAGGCCCTGAACTTTCTCAAGTCGACCT CACCAGGCCCAGCTCATGCTTCTTTGCAGCCTCTCCAGGCCCAGCTCCTGCATCTTGGTGGCACCTCCAGGCCCA GCCTCTGCCTCCGTCGGCCTCTACAATCCCAACATCTGCCTCACAGCAGATTCTTCAGGCCCAGCATCTGCCTC ACTGTGGACCCCCAAGCCAAGCTCCCAACCTTTCAGCAGCTTCTACACACCCCAACTCCTGCCACCCAGTGGCCT CTTTAGGCCAAGCTCATGCTTCACAAGGGCCTTTCCAGGCTCAACTTTTGTCTCATGGCAACCTTTCCTGGCCAG ATTCCTGCCTGTCTCCCAGCAGCCTAGACAGGCCCAGGTCTTGCCTCACACTGGCCTCTCTACATCCAGCTCATG CCTCACGGTGGCCTCTCCAGGCCCAACTCCTGTCCCAGGACGTCATCTCCGGGCCCAAAACTTACTCAAGTCAGA CTCTCTAGTCCCAACTGCTGCCTCCTGGTGGCCTATGAAGGCCCAAAATCTCCTCAAGTGGACCTCTCCAGGCCC AGCTCCTGCCTCCTGTCAGCGTCTACAGGCCCAACCTCTGCCTCATGGGGGGCTTCTCCAGGCCCACCTCTTCCTC TTGGCTGGGTCTACAGGCACAACTGCTGCCTCACAACAGCCTTTTTTTGGCCCAGTTCCTGTCCAGCTCATGGCGG CCAATGTAGGCCCAAAACTTCCTCAAGTCAAACTCTCCAGGCCCACCTTCTGCTTCCCGGTGGCATGAACAGGCC CAGCTTTGACTTGAGAACAGCCTCTGCAGGCCCTGCTCTTGCCTCCCAGGGGCCTTTTTCCAGACCCAGCTCCTGC GCCCAAAACTTCCTCAAATCAGCCTTTTGCCCAACTTCTGTCTACTGTCGGACTCTACAGGCCAGCCTCTGCCTC ACAGTGGACCCTCCAGACCCAGATGGTGTCTCACTGTGGCATCCTCAGGCGAAGCTCCTGCCTTTCCGCAGCCTC TACAGGCCCAGCTCCTGCCTTGCAGTGGCCTCTTTAGGCCAAGCTCATGCCCCATGGCGACTTTTCCAGGCACAG CTTTTGCCTTTTGCAGCCTGTCGAGGCCCAGAATGTCCTTAACTCGGCATCTCCAGGATGAGCTCATCCTCCCAG TGCGTCTACAGGCCCGTCTCCTGCCTCACAACAACCTCCTTTGGCCCAACTCCTGCTGAGCTGCTGGCAGCCTCT GTAGGCCACAGAATTCTTAAGGTAAAGCTTTCCAGGCCCACCTTTGGCCTCCCGGCAGGCTCAGCAATCAAACTA TTCCCTCACTGCGGCCACCGAAAGCCAAGTTTCTCCCTGCCTCACGGCATCCTCCGAAAACTGAGCATTTGCCTC ACGGTGGCCTCCCCÁGGCCATGAATCTGCCTGCCTCCCAGGCAGCTGCTCCCACAATGGTCTCTTTAGGCCCA GCTCATGCTAAAAGATGGACTCTCCAGGCACAGCTCTTGCCTCCTGGCAGCCTCTGCAGGCCCAAATTCTCCAAA AGTTGGCCTCTCCTAACTCAGCTCCTGCCTCATGTCTGCCTACACAGGCCCAGACTCTTACCACACAGTAGACCC TCCAGGCCCACCACTTGCCTGATCATAGCCTCCTAAGGCCAAGCTCCTGCCTTTCGGCAGCCTCTACAGGCCAAG CTCCTGCCTCGCAATTGCCTCTGTAGGCCAAGATCATGCCGTGAAGTGGCCTTCCCTAGCCTAACTTTTGCTTTT TGACGCATACTCCAGTCCCAAAACTTCCTCCAGTCAGCCGGTCCAGGCCAAGCTCTTCCTCCCAAAGGCTTCTGC AGGCCAAAATCATCCTGAAGTCACCCTCTGCAGGCGCAGCTCCTGCCTCCAAGTGCTGTAGGCCAAGCTAATG CCTCACAGCACACTTTCCAGGCTGAGCATTTCCTTTTGTGCATCCTCTCCAAGCCCTGAACTTACTCCAGTTGGC CTCTCCAGACCAAGCTCTCCCTCCCAGTGGCCTCTACAGGCCAAAATTGTCCTCAGGTCAGCCTCTCCAGGGCCA ACTCCTAGCTACCGGTGGCTTCTGCAGGCCAAAATCGACCTCAAGTCAGCCTCTTCACACCCCAGCTCTTGCCTCT GAGTGGCCTCTCCAGGAGCAAAACTTTCTCAAGTCGGCCTCTCCAGGCCCAGCCTCCTGCTTCCCGAGGGCATGT ACAGGCCCAGCCTCTGCCTCACAGCAGACTCTTCACACCCAGCTCTTCCCTGTCTGCGGCCTCTCCAGTCCAAAG TCTTGCAACGTGCCCAAGTGTCAGCTCCTGCCTCACACTGGCCTGTTGAGGCCCAGCTCATGCCTCTCGTGGCCT CAACGGGCCCATCCCCTGCCTGTCGGCGGCCTCTACAGGCCCGGCCTCTACCTCACAGTGGGCTCTCCAGGCCCA CAGTGGCCTCTGCTGGCCAAGCCCGTGCCTCAGGGCAGCCTTTCCAGGCCTAGCGTTTGCTGCTTTGCATCCTCT CCAGGCCCTGGACTTCCTCCAGTCGGCCTCTCCAGGCCCAGCTCTTCCTCTCGGCGGCCTCTGCAGGCCCAGACT GTCGTCAAGTCGGCCTGTCCAGGGCCAGCTCCTGCCTCCCGGCGGCCTCTGCAGGCCCAAGTCGTCCTCAAGTTG GCCTCCCCAGGCCCAGCAACGGCCTCTCGGCGGCCTTTCCGGGTGCAAAAGTTCCTCGAGTCAGCCTCTCCAGGC CCAGCTCCTCCTGCCTCCCAGTGGCCTCTTTCGGCCCAGCCCAGCTCATGCCTCCCGGCGGCCTTCCCAGGCCCT GCTTTTGACTTTCGGTGGCCTCTGCAGGCCTCGACAAGGCCAGGCCTCCTGCCTCCCAAAGGCCTGCACAGGCCC TGCCTCTCAGCCGCTTCGGCAGGCCCAGCTCCCGCCTGCCAGTGGCCTCTTCAGGCCCATGGGGCTCATTCCTCA

665/6881 FIGURE 618B

 ${\tt CAACGGCCTTTCCAGGCCCAGTTTTTCCCTTCCGGCGGCCTCTTGGCCTCTAATTTGTTTATCTTTTGGGTATAA} \\ {\tt ATCCCAAAATATTGAATTTTGGAATATTTCCACCATT}$

TTGAAGAACTTTGCCAAATACTTTCTTCACCAATCTCATGAGGAGAGGGAACATGCTGAGAAACTGATGAAGCTG
CAGAACCAACGAGGTGGCCGAATCTTCCTTCAGGATATCAAGAAACCAGACTGTGATGACTGGCAGAGCGGGCTG
AATGCGATGGAGTGTGCATTACATTTGGAAAAAAGTGTGAATCAGTCACTACTGGAACTGCACAAACTGGCCACT
GACAAAAATGACCCCCATTTGTGTGACTTCATTGAGACACATTACCTGAATAAGCAGGTGAAAGCCATCAAAGAA
TTGGGTGAGCACGTGACCAACTTGTGCAAGATGGGAGCGCCCGAATCTGGCTCGGCGGAATACCTCTTAGACAAG
CACACCCTGGGGGACAGTGATAATGAAAGCTAAGCCTCAGGCTAATTTCCACATAGCCGTGGGAGTGACTTCCCT
GGTCACCAAG

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MAGTKMGREDSVLDTAWGGSAARETHAGAALSLVSLPSTGLRCGGTTERTSLRVSSALDGVEEPWKLYLQKLTAA ALSLAAGKWERESKRKGGKGGSPCGQQERVHDSTRIKTKALWSEFRKAEGDTKGGDKAQVKDEPQNRSARLSAKP APPKPEPKPKKAPAETVPKGKKGKAVAGKEGNNPAENGDAKTDQAQKAEGAGDAKANLLPRCGSKEMKGSVWQRR GEIVFPPSPKVHLFYFTFIIHKKVKGCQEQGGSTGLLKRNVLTFGCKNCVMRTESPERRRQPFMGSMAHSVLGQN AREELPVFSALAGNHTPEPDPAMLCASGSRTPPLTESQVRH

AAGAAGCTGCCGTTGTTCTGGGTACTACAGCAGAAGGGTATCCGGAAGCGAGCACCCCAGTCTGAGATGGCTCCT GCCGGTGTGAGCCTGAGGGCCACCATCCTCTGCCTCCTGGCCTGGCCTGGCCTGGCTGCAGGTGACCGGGTGTAC ATACACCCCTTCCACCTCGTCATCCACAATGAGAGTACCTGTGAGCAGCTGGCAAAGGCCAATGCCGGGAAGCCC AAAGACCCCACCTCATACCTGCTCCAATTCAGGCCAAGACATCCCCTGTGGATGAAAAGGCCCTACAGGACCAG CTGGTGCTAGTCGCTGCAAAACTTGACACCGAAGACAAGTTGAGGGCCGCAATGGTCGGGATGCTGGCCAACTTC TTGGGCTTCCGTATATATGGCATGCACAGTGAGCTATGGGGGCGTGGTCCATGGGGCCACCGTCCTCTCCCCAACG GCTGTCTTTGGCACCCTGGCCTCTCTTTTTTGGGAGCCTTGGACCACACAGCTGACAGGCTACAGGCAATCCTG GGTGTTCCTTGGAAGGACAAGAACTGCACCTCCCGGCTGGATGCGCACAAGGTCCTGTCTGCCCTGCAGGCTGTA $\tt CAGGGCCTGCTAGTGGCCCAGGGCAGGGCTGATAGCCAGGCCCAGCTGCTGCTGCTCACGGTGGTGGGCGTGTTC$ ACAGCCCCAGGCCTGCACCTGAAGCAGCCGTTTGTGCAGGGCCTGGCTCTCTATACCCCTGTGGTCCTCCCACGC TCTCTGGACTTCACAGAACTGGATGTTGCTGCTGAGAAGATTGACAGGTTCATGCAGGCTGTGACAGGATGGAAG ACTGGCTGCTCCCTGATGGGAGCCAGTGTGGACAGCACCCTGGCTTTCAACACCTACGTCCACTTCCAAGGGAAG CTCTCTGGCATGGGCACCTTCCAGCACTGGAGTGACATCCAGGACAACTTCTCGGTGACTCAAGTGCCCTTCACT GAGAGCGCCTGCCTGCTGATCCAGCCTCACTATGCCTCTGACCTGGACAAGGTGGAGGGTCTCACTTTCCAG CAAAACTCCCTCAACTGGATGAAGAAACTGTCTCCCCGGACCATCCACCTGACCATGCCCCAACTGGTGCTGCAA GGATCTTATGACCTGCAGGACCTGCTCGCCCAGGCTGAGCTGCCCGCCATTCTGCACACCGAGCTGAACCTGCAA GAGCCCACAGAGTCTACCCAACAGCTTAACAAGCCTGAGGTCTTGGAGGTGACCCTGAACCGCCCATTCCTGTTT GCTGTGTATGATCAAAGCGCCACTGCCCTGCACTTCCTGGGCCGCGTGGCCAACCCGCTGAGCACAGCATGAGGC CAGGGCCCCAGAACACAGTGCCTGGCAAGGCCTCTGCCCCTGGCCTTTGAGGCAAAGGCCAGCAGCAGATAACAA CCCCGGACAATCAGCGATGTGTCACCCCCAGTCTCCCACCTTTTCTTCTAATGAGTCGACTTTGAGCTGGAAAG CAGCCGTTTCTCCTTGGICTAAGTGTGCTGCATGGAGTGAGCAGTAGAAGCCTGCAGCGGCACAAATGCACCTCC CAGTTTGCTGGGTTTATTTTAGAGAATGGGGGTGGGGAGGCAAGAACCAGTGTTTAGCGCGGGACTACTGTTCCA AAAAGAATTCCAACCGACCAGCTTGTTTGTGAAACAAAAAAGTGTTCCCTTTTCAAGTTGAGAACAAAAATTGGG TTTTAAAATTAAAGTATACATTTTTGCATTGCCTTCGGTTTGTATTTAGTGTCTTGAATGTAAGAACATGACCTC CGTGTAGTGTCTGTAATACCTTAGTTTTTTCCACAGATGCTTGTGATTTTTGAACAATACGTGAAAGATGCAAGC ACCTGAATTTCTGTTTGAATGCGGAACAATAGCTGGTTATTTCTCCCTTGTGTTAGTAATAAACGTCTTGCCAC

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VLEVTLNRPFLFAVYDQSATALHFLGRVANPLSTA

GAATTCGGCACGAGCCGGGATCCTGTGTAGCGGCTGCAGAGGGTGCCGCCCCTAGGCGAAGTAGGGCCGTCCT $\texttt{CCGCACC} \underline{\textbf{ATG}} \texttt{GAGTCTTCCAGTTCATCTAACTCTTATTTCTCCGTTGGCCCAACCAGTCCCAGCGCTGTCGTGCT}$ CCTCTACTCGAAGGAGCTCAAAAAGTGGGATGAGTTTGAAGATATTTTAGAAGAGAGGGAGGCATGTCAGTGACTT GAAATTTGCAATGAAATGCTACACACCTCTTGTCTATAAGGGAATTACTCCATGTAAACCAATTGATATTAAATG TAGTGTTCTCAATTCTGAGGAGATTCATTATGTCATTAAACAGCTTTCCAAGGAATCCCTTCAATCTGTGGATGT CCTCCGAGAGGAAGTGAGTCTTAGATGAAATGAGTCACAAACTGCGTCTTGGAGCCATTCGGTTTTGTGC AAGAGCCATCCAGGAGCATCCTGTTGTTCTGCTGCCTAGTCATCGAAGTTACATTGACTTCCTCATGTTGTCTTT TCTTCTATACAATTATGATTTGCCTGTGCCAGTTATAGCAGCAGGAATGGACTTCCTGGGAATGAAAATGGTTGG TGAGCTGCTACGAATGTCGGGTGCCTTTTTCATGCGGCGTACCTTTGGTGGCAATAAACTCTACTGGGCTGTATT CTCTGAATATGTAAAAACTATGTTACGGAATGGTTATGCTCCTGTTGAATTTTTCCTCGAAGGGACAAGAAGCCG CTCTGCCAAGACATTGACTCCTAAATTTGGTCTTCTGAATATTGTGATGGAGCCATTTTTTAAAAGAGAAGTTTT TGATACCTACCTTGTCCCAATTAGTATCAGTTATGATAAGATCTTGGAAGAAACTCTTTATGTGTATGAGCTTCT AGGGGTTCCTAAACCAAAAGAGTCTACAACTGGGTTGCTGAAAGCCAGAAAGATTCTCTCTGAAAATTTTGGAAG CATCCATGTGTACTTTGGAGATCCTGTGTCACTTCGATCTTTGGCAGCTGGGAGGATGAGTCGGAGCTCATATAA GGAGCTTCTGCAAATTGAAAACATGGTTTTGAGCCCCTGGACCCTAATAGTTGCTGTTCTGCTTCAGAACCGGCC ATCCATGGACTTTGATGCTCTGGTGGAAAAGACTTTATGGCTAAAAGGCTTAACCCAGGCATTTGGAGGGTTTCT CATTTGGCCTGATAATAAACCTGCTGAAGAAGTTGTCCCGGCCAGCATTCTTCTGCATTCCAACATTGCCAGCCT TGTCAAAGACCAGGTGATTCTGAAAGTGGACTCCGGAGACTCGGAAGTGGTCGATGGGCTTATGCTCCAGCACAT CACTCTCCTCATGTGCTCAGCTTATAGGAACCAGCTGCTCAACATTTTTGTGCGCCCCATCCTTAGTAGCAGTAGC ATTGCAGATGACACCAGGGTTCAGGAAAGAGGATGTCTACAGTTGCTTTCGCTTCCTACGTGATGTTTTTTGCAGA TGAGTTCATCTTCCAGGAAACACACTAAAGGACTTTGAAGAAGGCTGTTACCTGCTTTGTAAAAGTGAAGC CATACAAGTGACTACGAAAGACATCCTAGTTACAGAGAAAGGAAATACTGTGTTAGAATTTTTAGTAGGACTCTT TAAACCTTTTGTGGAAAGCTATCAGATAATTTGCAAGTACCTTTTGAGTGAAGAAGAGGACCACTTCAGTGAGGA ACAGTACTTGGCTGCAGTCAGAAAATTCACAAGTCAGCTTCTCGATCAAGGTACCTCTCAATGTTATGATGTATT TAACTGTATATTTAATGTGAATGAACCTGCCACAACCAAATTAGAAGAAATGCTTGGTTGTAAGACACCAATAGG AGGACTCATTACAACAAACAGGGAAGTAAAGGAAGACACATCCTCTCATACTCCCTGAGACTCTGAGAACAGT GGACGCAGAGGGAAGAGATGATCATTGGAAGCAATCAGTTTACTCTTCCCCACCACAGTGGTTAAAAGGCGTTTG

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ATAKL

MFSTSAKIVKPNGEKPDEFESRISQALLELEMNLDLKAQLRELNIMAAKEIEVGGGQKAIIIFVPVPQLKSFQKI QVRLVCELEKKFSGKHVVFIAKRRILPKPTWKSCTKYKQKHPRSHTLTAVHDAILEDLVFTSKIVGKRIRVKLDG SRLMKVHLDKAQQNNVEHKVETFSGVYKKLMGKDVNFEFPEFQL

MARHVFLTGPPGVGKTTLIHKASEVLKSSGVPVDGFYTEEVRQGGRRIGFDVVTLSGTRGPLSRVGLEPPPGKRE CRVGQYVVDLTSFEQLALPVLRNADCSSGPGQRVCVIDEIGKMELFSQLFIQAVRQTLSTPGTIILGTIPVPKGK PLALVEEIRNRKDVKVFNVTKENRNHLLPDIVTCVQSSRK

 ${\tt MAEVEQKKKRTFRKFTYRGVDLDQLLDMSYEQLMQLYSARQRRRLNRGLRRKRHYLLKRLRKAKKEAPPMEKPEV} \\ {\tt VKTHLRDVIILPEVVGSMVGVHNGKTFTYKPVKQCRSGIGATHSFCFIPLK}$

ACCATGTCTATTCTCAAGATCCATGCCAGGGAGCTCTTTGACTCTCGTGGGAATCCCACTGTTGAGGTTGATCTC
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CTC<u>TAG</u>CCTTGCAGTCATGTAATTGGCCCAAATCACCGGAGCCACGTGACCCTCCAGTGTCATCTCCGGGGTGGC
CACAGGCAAGATCCCCAGTGATTTTGTGCTCAAAATAAAAAGCCTCATTGACCCATGAG

 ${\tt MSILKIHARELFDSRGNPTVEVDLFTSEGLFRAAVPSGASTGIYEVLELQDNDKTRYMGKGVSKPVEPINKTIAP} \\ {\tt VLVSKKLNVTELLQKPSSLEPCWQL}$

 ${\tt CCCAGAAATTCTACCCAAGCTCCCTCAGCACC}$ TGCGGGCTCCAGCCGCAGCCTTAGCTTCGGCTCCCGGCTTGGGTGGCGCGGCCGTGCCCTCGTTTTGGCCTCCGA ACGCGGCTCGAATGGCAAGCCAAAATTCCTTCCGGATAGAATATGATACCTTTGGTGAACTAAAGGTGCCAAATG ATAAGTATTATGGCGCCCAGACCGTGAGATCTACGATGAACTTTAAGATTGGAGGTGTGACAGAACGCATGCCAA CCCCAGTTATTAAAGCTTTTGGCATCTTGAAGCGAGCGGCCGCTGAAGTAAACCAGGATTATGGTCTTGATCCAA AGATTGCTAATGCAATAATGAAGGCAGCAGATGAGGTAGCTGAAGGTAAATTAAATGATCATTTTCCTCTCGTGG TATGGCAGACTGGATCAGGAACTCAGACAAATATGAATGTAAATGAAGTCATTAGCAATAGAGCAATTGAAATGT TAGGAGGTGAACTTGGCAGCAAGATACCTGTGCATCCCAACGATCATGTTAATAAAAGCCAGAGCTCAAATGATA CTTTTCCCACAGCAATGCACATTGCTGCTGCAATAGAAGTTCATGAAGTACTGTTACCAGGACTACAGAAGTTAC ATGATGCTCTTGATGCAAAATCCAAAGAGTTTGCACAGATCATCAAGATTGGACGTACTCATACTCAGGATGCTG TTCCACTTACTCTTGGGCAGGAATTTAGTGGTTATGTTCAACAAGTAAAATATGCAATGACAAGAATAAAAGCTG CCATGCCAAGAATCTATGAGCTCGCAGCTGGAGGCACTGCTGTTGGTACAGGTTTAAATACTAGAATTGGCTTTG CAGAAAAGGTTGCTGCAAAAGTGGCTGCACTTACAGGCTTGCCTTTTGTCACTGCTCCGAATAAATTTGAAGCTC ATGATATTCGATTTTTGGGTTCTGGTCCTCGGTCAGGTCTGGGAGAATTGATCTTGCCTGAAAATGAACCAGGAA GCAGTATCATGCCAGGCAAGGTGAACCCTACTCAGTGTGAAGCAATGACCATGGTTGCAGCCCAAGTCATGGGGA ACCATGTTGCTGTCACTGTCGGAGGCAGCAATGGACATTTTGAGTTGAATGTTTTCAAGCCAATGATTAAAA ATGTGTTACACTCAGCCAGGCTGCTGGGGGATGCTTCAGTTTCCTTTACAGAAAACTGCGTGGTGGGAATCCAGG CCAATACAGAAAGGATCAACAAGCTGATGAATGAGTCTCTAATGTTGGTGACAGCTCTCAATCCTCATATAGGGT ATGACAAGGCAGCAAAGATTGCTAAGACAGCACACAAAAATGGATCAACCTTAAAGGAAACTGCTATCGAACTTG $\texttt{GCTATCTCACAGCAGAGCAGTTTGACGAATGGGTAAAACCTAAGGACATGCTGGGTCCAAAG\underline{\textbf{TGA}} \texttt{TTTACATAAA}$ TTTATAATGAAAATAAACATGTATAAAAATTTAAAAAAACAGACTCCCATTTCTTAAAAAACGGATAAGTTTGAAAG GAAACTGCTAT1'GAACTTAAGCATCTCTAGCAGAGCAATTTGATCAGTATATAAAACCCTAGGATGTGCTAGGTC TAAGATGGATTAAACAAGTATAAAATAAAATACATTTATAAAATAAAAAGGAAAACAGACTTAAAA

MYRALRLLARSRPLVRAPAAALASAPGLGGAAVPSFWPPNAARMASQNSFRIEYDTFGELKVPNDKYYGAQTVRS
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GGGXTCGGCCCCTCCCCCTCTTCTGCGCTCTTCTCGGGATACACGTGGGCCTCGGGCCTGGGCCGCGCAGTTTTT CTTTGGCTTTCTCGAATCATCGAGGAGACTGGCAAAATTAGTAATGTCTTTAGACTGCGTCACTAGCGCCAATCG AATTCGTAGTTGATTGTTCTTTGAATTCACATTTGAGTCCTCGGTTAAAAACCTCAGTTAAAAAGCAGGATAAAGT CGAGCTGCTTTGGTTCTCGGAACGGAAAAGCGTTTTTTTGTTGTTTAGAGGCTTGGCCTTTATGGGGCTCGTGTG TGTTTTAGGGGACGGCAAAACAGAACAGAAAGGCGGAGATAAAAAGAGGGGGTGTTAAAAAGACCACGAGAAGATCA TGGCCGTGGATATTTTGAGTACATTGAAGAGAACAAGTATAGCAGAGCCAAATCTCCTCAGCCACCTGTTGAAGA AGAAGATGAACACTTCGATGACACAGTGGTTTGTCTTGATACTTATAATTGTGATCTACATTTTAAAATATCAAG AGATCGTCTCAGTGCTTCTTCCCTTACAATGGAGAGTTTTGCTTTTCTTTGGGCTGGAGGAAGAGCATCCTATGG TGTGTCAAAAGGCAAAGTGTGTTTTGAGATGAAGGTTACAGAGAAGATCCCAGTAAGGCATTTATATACAAAAGA TTATGGGTATTCTCTAAAAGGAATAAAAACATGCAACTGTGAGACTGAAGATTATGGAGAAAAGTTTGATGAAAA TGATGTGATTACATGTTTTGCTAACTTTGAAAGTGATGAAGTAGAACTCTCGTATGCTAAGAATGGACAAGATCT TGGCGTTGCCTTCAAAATCAGTAAGGAAGTTCTTGCTGGACGGCCACTGTTCCCGCATGTTCTCTGCCACAACTG TGCAGTTGAATTTAATTTTGGTCAGAAGGAAAAGCCATATTTTCCAATACCTGAAGAGTATACTTTCATCCAGAA TGGCTTGCCAGGAGCTGGAAAAACTACCTGGGTTACTAAACATGCAGCAGAAAATCCAGGGAAATATAACATTCT TGGCACAAATACTATTATGGATAAGATGATGGTGGCAGGTTTTAAGAAGCAAATGGCAGATACTGGAAAACTGAA CACACTGTTGCAGAGAGCCCCCCAGTGTCTTGGGAAATTTATTGAGATTGCTGCCCGAAAGAAGCGAAATTTTAT TCTGGATCAGACAAATGTGTCTGCTGCTGCCCAGAGGAGAAAAATGTGCCTGTTTGCAGGCTTCCAGCGAAAAGC TGTTGTAGTTTGCCCAAAAGATGAAGACTATAAGCAAAGAACACAGAAGAAAGCAGAAGTAGAGGGGAAAGACCT ACCAGAACATGCGGTCCTCAAAATGAAAGGAAACTTTACCCTCCCAGAGGTAGCTGAGTGCTTTGATGAAATAAC CTATGTTGAACTTCAGAAGGAAGAAGCCCAAAAACTCTTGGAGCAATATAAGGAAGAAAGCAAAAAGGCTCTTCC ACCAGAAAGAAACAGAACACTGGCTCAAAGAAAAGCAATAAAAATAAGAGTGGCAAGAACCAGTTTAACAGAGG TGGTGGCCATAGAGGACGTGGAGGATTCAATATGCGTGGTGGAAATTTCAGAGGAGGAGCCCCTGGGAATCGTGG CGGATATAATAGGAGGGGCAACATGCCACAGAGAGGTGGTGGTGGAGGAAGTGGTGGAATCGGCTATCCATA CCCTCGTGCCCCTGTTTTTCCTGGCCGTGGTAGTTACTCAAACAGAGGGAACTACAACAGAGGTGGAATGCCCAA CCAGTGGCAGCAGGGTCAATTCTGGGGTCAGAAGCCATGGAGTCAGCATTATCACCAAGGATATTATTGAATACC CAAATAAAACGAACTGATACATATTTCTCCAAAACCTTCACAAGAAGTCGACTGTTTTCTTTAGTAGGCTAACTT TTTTTTGTACATTTTTAATTGCAGTTTAAAAGTGAATCGTAAGAGAACCTCAGCATTGTGCACGATAAGAGAATG TGTTGCTTTGTACCTGGTGTCTTTTATTAAGAATTTACTCCCCCCATTTCTCACAGAGAATAACAGTCGGGAGTC ATTGTCACAATATAATAGAAATGTTAGCAACCAGATTCATGTAAGGACTAAGTGGTCCTCATGAATTGCATTAAG ACTCTGTACTGCTCATATTACACTCCATCCTCTCTGTAGTTTGCTGGGTAGTGGAGGGGGGTAAGCTAAATCATAG TTTCTGACAATAACTGGGAAGGTTTTTTCTTAAAATAACAATGGAATTGGTATAATTGGGATTGAAAACTAAAAC TTGGAACTAAGATAGAGAAGATGGAGTGTATGTAGAAGGGCTGTTAAAAATGTAAAACTTGGTTGCATTATTTGT GCTTTGCCCATTTCTTATTAAAAAACTTGTTGTAAATCCAGTTGTCTAATGGGATCTATATGAAGTTAGCCATG TCTGTATGCCCTTCTCCCACAAAATACTGTATAACTAGTGTGCTTGTAGTAGTTAACTCCACCATCTTTGTAAGC TAATGAAATTGTGAGTCACCCATTTATATCTTAATTTTTAATCATGTCAGTTCTTGAATGGGTATCTCCTTAGCC CATTTT

GGCGTTGCCGGCCGTGGGTGCTCTGGCCACAGTGAGTTAGGGGCGTCGGAGCGGGTTTCTCCAACCGCAATCGGC TCCGCTCAAGGGGAGGAGGAGTCCCTTCTCGGAAGGCCTAAGGAAACGTGTCGTCTGGAATGGGCTTGGGGGC CACGCCTGCACATCTCCGCGAGACAGAGGGGATAAAGTGAAGATGGTGCTGTTATTGTTACCTCGAGTGCCACATG CGACCTCTGAGATATGTACACAGTCATTCTTACTATCGCACTCAGCCATTCTTACTACGCTAAAGAAGAAATAAT TATTCGAGGATATTTGCCTGGCCCAGAAGAAACTTATGTAAATTTCATGAACTATTATATCCGTTTTCCTCGGAG TGAGAGAAAACTCTTTTTAGATATCATCTGAGAGAACTAGTGAATCCCAGTCACTGAGTGGAGTTGAGAGTCTAA GAACCTCTGAAATTTGAGAACTGCTGGACCAGAGCCTTTAGAGCTCTGATAAGGTGTCAACAGGGTAGTTAATTT GGGCAGGTAGTAGCTGTGGATACATATTGCTGGCTTCACAAAGGAGCTATTGCTTGTGCTGAAAAACTAGCCAAA GGTGAACCTACTGATAGGTATGTAGGATTTTGTATGAAATTTGTAAATATGTTACTATCTCATGGGATCAAGCCT ATTCTCGTATTTGATGGATGTACTTTACCTTCTAAAAAGGAAGTAGAGAGATCTAGAAGAGAAAAGACGACAAGCC AATCTTCTTAAGGGAAAGCAACTTCTTCGTGAGGGGAAAGTCTCGGAAGCTCGAGAGTGTTTCACCCGGTCTATC AATATCACACATGCCATGGCCCACAAAGTAATTAAAGCTGCCCGGTCTCAGGGGGTAGATTGCCTCGTGGCTCCC TATGAAGCTGATGCGCAGTTGGCCTATCTTAACAAAGCGGGAATTGTGCAAGCCATAATTACAGAGGACTCGGAT CTCCTAGCTTTTGGCTGTAAAAAGGTAATTTTAAAGATGGACCAGTTTGGAAATGGACTTGAAATTGATCAAGCT $\tt CGGCTAGGAATGTGCAGACAGCTTGGGGATGTATTCACGGAAGAGAAGTTTCGTTACATGTGTATTCTTTCAGGT$ TGTGACTACCTGTCATCACTGCGTGGGATTGGATTAGCAAAGGCATGCAAAGTCCTAAGACTAGCCAATAATCCA GATATAGTAAAGGTTATCAAGAAAATTGGACATTATCTCAAGATGAATATCACGGTACCAGAGGATTACATCAAC GGGTTTATTCGGGCCAACAATACCTTCCTCTATCAGCTAGTTTTTGATCCCATCAAAAGGAAACTTATTCCTCTG AACGCCTATGAAGATGATGTTGATCCTGAAACACTAAGCTACGCTGGGCAATATGTTGATGATTCCATAGCTCTT CAAATAGCACTTGGAAATAAAGATATAAATACTTTTGAACAGATCGATGACTACAATCCAGACACTGCTATGCCT GCCCATTCAAGAAGTCATAGTTGGGATGACAAAACATGTCAAAAGTCAGCTAATGTTAGCAGCATTTGGCATAGG AATTACTCTCCCAGACCAGAGTCGGGTACTGTTTCAGATGCCCCACAATTGAAGGAAAATCCAAGTACTGTGGGA GTGGAACGAGTGATTAGTACTAAAGGGTTAAATCTCCCAAGGAAATCATCCATTGTGAAAAGACCAAGAAGTGCA GAGCTGTCAGAAGATGACCTGTTGAGTCAGTATTCTCTTTCATTTACGAAGAAGACCAAGAAAAATAGCTCTGAA GGCAATAAATCATTGAGCTTTTCTGAAGTGTTTGTGCCTGACCTGGTAAATGGACCTACTAACAAAAAGAGTGTA AGCACTCCACCTAGGACGAGAAATAAATTTGCAACATTTTTACAAAGGAAAAATGAAGAAAGTGGTGCAGTTGTG CCTCTGGATGAAACTGCTGTCACAGATAAAGAGAACAATCTGCATGAATCAGAGTATGGAGACCAAGAAGGCAAG AGACTGGTTGACACAGATGTAGCACGTAATTCAAGTGATGACATTCCGAATAATCATATTCCAGGTGATCATATT CCAGACAAGGCAACAGTGTTTACAGATGAAGAGTCCTACTCTTTTGAGAGCAGCAAATTTACAAGGACCATTTCA CCACCCACTTTGGGAACACTAAGAAGTTGTTTTAGTTGGTCTGGAGGTCTTGGAGATTTTTCAAGAACGCCGAGC TCTGATGTGTCGCAGTTAAAGAGCGAGGAGTCCAGTGACGATGAGTCTCATCCCTTACGAGAAGGGGCCATGTTCT TCACAGTCCCAGGAAAGTGGAGAATTCTCACTGCAGAGTTCAAATGCATCAAAGCTTTCTCAGTGCTCTAGTAAG GACTCTGATTCAGAGGAATCTGATTGCAATATTAAGTTACTTGACAGTCAAAGTGACCAGACCTCCAAGCTATGT TTATCTCATTTCTCAAAAAAAAGACACCTCTAAGGAACAAGGTTCCTGGGCTATATAAGTCCAGTTCTGCAGAC TCTCTTTCTACAACCAAGATCAAACCTCTAGGACCTGCCAGAGCCAGTGGGCTGAGCAAGAAGCCGGCAAGCATC CAGAAGAGAAAGCATCATAATGCCGAGAACAAGCCGGGGTTACAGATCAAACTCAATGAGCTCTGGAAAAACTTT GGATTTAAAAAAGATTCTGAAAAGCTTCCTCCTTGTAAGAAACCCCTGTCCCCAGTCAGAGATAACATCCAACTA CAGACTGCTGCAAAGCTTTTGCCTGCAAGAGAATCTGATCAATTTGAAGTCCCTGTTTGGGAATGAGGCACTTAT ΑΑΑΑΑΑΑΑΑΑΑΑ

MGIQGLLQFIKEASEPIHVRKYKGQVVAVDTYCWLHKGAIACAEKLAKGEPTDRYVGFCMKFVNMLLSHGIKPIL VFDGCTLPSKKEVERSRRERRQANLLKGKQLLREGKVSEARECFTRSINITHAMAHKVIKAARSQGVDCLVAPYE ADAQLAYLNKAGIVQAIITEDSDLLAFGCKKVILKMDQFGNGLEIDQARLGMCRQLGDVFTEEKFRYMCILSGCD YLSSLRGIGLAKACKVLRLANNPDIVKVIKKIGHYLKMNITVPEDYINGFIRANNTFLYQLVFDPIKRKLIPLNA YEDDVDPETLSYAGQYVDDSIALQIALGNKDINTFEQIDDYNPDTAMPAHSRSHSWDDKTCQKSANVSSIWHRNY SPRPESGTVSDAPQLKENPSTVGVERVISTKGLNLPRKSSIVKRPRSAELSEDDLLSQYSLSFTKKTKKNSSEGN KSLSFSEVFVPDLVNGPTNKKSVSTPPRTRNKFATFLQRKNEESGAVVVPGTRSRFFCSSDSTDCVSNKVSIQPL DETAVTDKENNLHESEYGDQEGKRLVDTDVARNSSDDIPNNHIPGDHIPDKATVFTDEESYSFESSKFTRTISPP TLGTLRSCFSWSGGLGDFSRTPSPSPSTALQQFRRKSDSPTSLPENNMSDVSQLKSEESSDDESHPLREGACSSQ SQESGEFSLQSSNASKLSQCSSKDSDSEESDCNIKLLDSQSDQTSKLCLSHFSKKDTPLRNKVPGLYKSSSADSL STTKIKPLGPARASGLSKKPASIQKRKHHNAENKPGLQIKLNELWKNFGFKKDSEKLPPCKKPLSPVRDNIQLTP EAEEDIFNKPECGRVQRAIFQ

GTCCACATGCAGAGGCTCGCTACAGAAGCTACAGAAGATGGTTACATTTCAAGTGGGCAGGTGCCGTTTGCT TATGAGCACCATCAGCCACATCAGCCACGGTTCTTTGAATTTTACCTAATTGTCTCTAATTCTTAACAATTCTTT GAGGTGATCTGCAACTCTTTCACCATCTGTAATGCGGAGATGCAGGAAGTTGGTGTTGGCCTATATCCCAGTATC TCTTTGCTCAATCACAGCTGTGACCCCAACTGTTCGATTGTGTTCAATGGGCCCCACCTCTTACTGCGAGCAGTC CGAGACATCGAGGTGGGAGAGGAGCTCACCATCTGCTACCTGGATATGCTGATGACCAGTGAGGAGCGCCGGAAG CAGCTGAGGGACCAGTACTGCTTTGAATGTGACTGTTTCCGTTGCCAAACCCAGGACAAGGATGCTGATATGCTA ACTGGTGATGAGCAAGTATGGAAGGAAGTTCAAGAATCCCTGAAAAAAATTGAAGAACTGAAGGCACACTGGAAG TGGGAGCAGGTTCTGGCCATGTGCCAGGCAATCATAAGCAGCAATTCTGAACGGCTTCCCGATATCAACATCTAC CAGCTGAAGGTGCTCGACTGCGCCATGGATGCCTGCATCAACCTCGGCCTGTTGGAGGAAGCCTTGTTCTATGGT ACTCGGACCATGGAGCCATACAGGATTTTTTTCCCAGGAAGCCATCCCGTCAGAGGGGTTCAAGTGATGAAAGTT GGCAAACTGCAGCTACATCAAGGCATGTTTCCCCAAGCAATGAAGAATCTGAGACTGGCTTTTGATATTATGAGA GTGACACATGGCAGAGAACACAGCCTGATTGAAGATTTGATTCTACTTTTAGAAGAATGCGACGCCAACATCAGA GCATCCTAAGGGAACGCAGTCAGAGGGAAATACGGCGTGTGTCTTTGTTGAATGCCTTATTGAGGTCACACTC ATGGTTTGCAAACCACAAGAATCATTAGTTGTAGAGAAGCACGATTATAATAAATTCAAAACATTTGGTTGAGGA TGCC

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 $\label{thm:constraint} $$ MFSSSAKIVKPNGEKPDEFESGISQALLELEMNSDLKAQLRELNITAAKEIEVGGGRKAIIIFVPVPQLKSFQKI\\ QVRLVRELEKKFSGKHVVFIAQRRILPKPTRKSRTKNKQKRPRSRTLTAVHDAILEDLVFPSEIVGKRIRVKLDG\\ SRLIKVHLDKAQQNNVEHKVETFSGVYKKLTGKDVNFEFPEFQL$

 ${\tt GCTCAGG} \underline{\textbf{ATG}} \\ \textbf{AGGGGGGAATCTGGCCCTGGTGGGCGTTCTAATCAGCCTGGCCTTCCTGTCACTGCTGCCATCTGG} \\$ ACATCCTCAGCCGGCTGGCGATGACGCCTGCTCTGTGCAGATCCTCGTCCCTGGCCTCAAAGGGGATGCGGGAGA GAAGGGAGACAAAGGCGCCCCGGACGGCCTGGAAGAGTCGGCCCCACGGGAGAAAAAAGGAGACATGGGGGACAA ${\tt AGGACAGAAAGGCAGTGTGGGTCGTCATGGAAAAATTGGTCCCATTGGCTCTAAAGGTGAGAAAGGAGATTCCGG}$ GGAGATGGACAACCAGGTCTCTCAGCTGACCAGCGAGCTCAAGTTCATCAAGAATGCTGTCGCCGGTGTGCGCGA GACGGAGAGCAAGATCTACCTGCTGGTGAAGGAGGAGAAGCGCTACGCGGACGCCCAGCTGTCCTGCCAGGGCCG CGGGGGCACGCTGAGCATGCCCAAGGACGAGGCTGCCAATGGCCTGATGGCCGCATACCTGGCGCAAGCCGGCCT GGCCCGTGTCTTCATCGGCATCAACGACCTGGAGAAGGAGGGCGCCTTCGTGTACTCTGACCACTCCCCCATGCG GACCTTCAACAAGTGGCGCAGCGGTGAGCCCAACAATGCCTACGACGAGGAGGACTGCGTGGAGATGGTGGCCTC GGGCGGCTGGAACGACGTGGCCTGCCACACCACCATGTACTTCATGTGTGAGTTTGACAAGGAGAACATG<u>TGA</u>GC CTCAGGCTGGGGCTGCCCATTGGGGGCCCCACATGTCCCTGCAGGGTTGGCAGGGACAGAGCCCAGACCATGGTG CCAGCCAGGGAGCTGTCCCTCTGTGAAGGGTGGAGGCTCACTGAGTAGAGGGCTGTTGTCTAAACTGAGAAAATG GCCTATGCTTAAGAGGAAAATGAAAGTGTTCCTGGGGTGCTGTCTCTGAAGAAGCAGAGTTTCATTACCTGTATT GTAGCCCCAATGTCATTATGTAATTATTACCCAGAATTGCTCTTCCATAAAGCTTGTGCCTTTGTCCAAGCTATA

MRGNLALVGVLISLAFLSLLPSGHPQPAGDDACSVQILVPGLKGDAGEKGDKGAPGRPGRVGPTGEKGDMGDKGQ KGSVGRHGKIGPIGSKGEKGDSGDIGPPGPNGEPGLPCECSQLRKAIGEMDNQVSQLTSELKFIKNAVAGVRETE SKIYLLVKEEKRYADAQLSCQGRGGTLSMPKDEAANGLMAAYLAQAGLARVFIGINDLEKEGAFVYSDHSPMRTF NKWRSGEPNNAYDEEDCVEMVASGGWNDVACHTTMYFMCEFDKENM

GGCACGAGGGGCTTCTGTCACCTTCCTCACGGACCTTGGTCACGGCCGCAGGTGACCCCTTAGCCCAGCTCCAGT AGCTCGCGCCTCCGGAGGAGCAGGGGTTGCTCTTCCAGGAGGAAACCATCGATCTTGGCGGAGATGAGTTTGGAT TCCTCATCTCTGACTCCCCCAACAGCGAGGGCGACGCGGGCGACCTGGGCCGAGTGCGGGACGAAGCTGAGCCCG GAGGGGAAGGCGACCCAGGCCCGGAGCCCGGGCACCCCGAGTCCCAGCGGCGAGGCCGACGGCGACTGTGCCC CCTCGGACTTCTTCGACTCCTTTACTACCTCCGCCTTCATTTCCGTCAGCAATCCCGGCGCGGGCTCCCCGGCCC CCGCCAGCCCGCCTCCCTCGCTGTGCCCGGGACCGAGGGCCCCCGAACCCGTGGCCATGCGAGGGCCCCAGG CAGCTGCGCCCCGGCGTCGCCAGAGCCTTTCGCGCACATCCAGGCAGTGTTTGCAGGGAGTGACGACCCCTTTG CCACCGCCTGAGCATGAGCGAGATGGACCGGAGGAACGACGCCTGGCTTCCCGGCGAGGCTACGCGTGGAGTCC TGCGGGCCGTGGCCACCCAGCAGCGCGCGCGCGTGTTCGTGGACAAGGAGAACCTCACCATGCCGGGCCTCAGGT TCGACAACATCCAGGGAGATGCAGTTAAAGACTTGATGCTTCGCTTTCTGGGTGAAAAAGCTGCAGCAAAGAGAC AAGTCCTAAATGCCGACTCAGTGGAACAATCTTTTGTTGGATTGAAACAGCTAATCAGCTGCAGAAACTGGAGGG CAGCAGTGGACCTGTGCGGACGTCTCCTCACAGCCCACGGCCAGGGCTACGGCAAGAGCGGGCTGCTCACCAGCC ACACGACAGATTCACTGCAGCTCTGGTTTGTCAGGCTGGCACTACTAGTGAAGTTGGGCCTTTTCCAGAATGCTG AGATGGAATTTGAACCCTTCGGAAATCTTGATCAGCCAGATCTTTATTACGAGTACTACCCGCACGTGTACCCTG GGCGCAGGGGCTCCATGGTCCCCTTCTCGATGCGCATCTTGCACGCGGAGCTTCAGCAGTACCTGGGGAACCCAC AGGAGTCGCTGGATAGACTGCACAAGGTGAAGACTGTCTGCAGCAAGATCCTGGCCAATTTGGAGCAAGGCTTAG CAGAAGACGCCGCATGAGCAGCGTGACTCAGGAGGGCAGACAAGCCTCTATCCGGCTGTGGAGGTCACGTCTGG GCCGGGTGATGTACTCCATGGCAAACTGTCTGCTCCTGATGAAGGATTATGTGCTGGCCGTGGATGCGTATCATT CGGTTATCAAGTATTACCCAGAGCAAGAGCCCCAGCTGCTCAGCGGCATCGGCCGGATTTCCCTCCAGATTGGAG ACATAAAAACAGCTGAAAAGTATTTTCAAGACGTTGAGAAAGTAACACAGAAATTAGACGGACTACAGGGTAAAA TCATGGTTTTGATGAACAGCGCGTTCCTTCACCTCGGGCAGAATAACTTTGCAGAAGCCCACAGGTTCTTCACAG ${\tt AGATCTTAAGGATGGATCCAAGAAACGCAGTGGCCAACAACAACGCTGCCGTGTCTTGCTCTACCTGGGCAAGC}$ ${\tt TCAAGGACTCCCTGCGGCAGCTGGAGGCCATGGTCCAGGAGGCCCCAGGCACTACCTGCACGAGAGCGTGCTCT}$ TCAACCTGACCACCATGTACGAGCTGGAGTCCTCACGGAGCATGCAGAAGAAACAGGCCCTGCTGGAGGCTGTCG GGACCCGGGTCTTTGAAACTGTGTCTTGAAGCTAATGTATTAATGTGACATGGAGGAACTCAATAAAACTCCTGC TTCAAAAAAAAAAAAAAAAA

695/6881 FIGURE 648

MLRFLGEKAAAKRQVLNADSVEQSFVGLKQLISCRNWRAAVDLCGRLLTAHGQGYGKSGLLTSHTTDSLQLWFVR LALLVKLGLFQNAEMEFEPFGNLDQPDLYYEYYPHVYPGRRGSMVPFSMRILHAELQQYLGNPQESLDRLHKVKT VCSKILANLEQGLAEDGGMSSVTQEGRQASIRLWRSRLGRVMYSMANCLLLMKDYVLAVDAYHSVIKYYPEQEPQ LLSGIGRISLQIGDIKTAEKYFQDVEKVTQKLDGLQGKIMVLMNSAFLHLGQNNFAEAHRFFTEILRMDPRNAVA NNNAAVCLLYLGKLKDSLRQLEAMVQQDPRHYLHESVLFNLTTMYELESSRSMQKKQALLEAVAGKEGDSFNTQC LKLA

CGCGAGGTGGGGACGCCGGCCGTAGCGAGGTCCTTAGCGTGTGAGTGGCCGGGGTCGGGTCGCTTCCCCGCAG CATGGAGGACGATGCACCAGTGATCTACGGGCTGGAGTTCCAGGCACGTGCCTTAACACCTCAAACTGCAGAAAC AGATGCCATTCGGTTTTTGGTTGGGACGCAGTCTCTTAAATATGATAATCAGATCCATATCATAGATTTTGACGA TGAAAACAACATTATAAATAAAAATGTCCTCCTCCATCAAGCGGGTGAAATCTGGCATATTAGCGCTAGCCCTGC AGACAGAGGTGTGCTGACGACCTGCTACAACAGAACTTCAGACAGCAAAGTCCTGACATGTGCAGCCGTGTGGAG GATGCCGAAGGAATTGGAATCAGGCAGCCACGAGTCCCCTGATGATTCATCCAGCACTGCACAGACCCTGGAGCT GCTCTGTCACCTTGACAACACAGCCCATGGCAACATGGCCTGTGTCGTGTGGGAGCCAATGGGAGATGGGAAGAA AATCATTTCCTTGGCTGATAACCATATCCTGCTGTGGGATTTACAGGAAAGCTCGAGCCAGGCTGTGCTGGCCAG CTCAGCGTCCCTGGAAGGGAAGGGACAACTGAAGTTCACCTCAGGACGGTGGAGCCCACATCATAACTGCACCCA GGTGGCCACAGCGAACGACACCACCCTCCGTGGCTGGGACACCCGGAGCATGAGCCAGATCTACTGCATAGAGAA TGCCCACGGACAGCTGGTGCGGGACCTTGACTTTAATCCCAATAAGCAGTACTACTTGGCCAGCTGCGGAGACGA CTGTAAGGTGAAGTTCTGGGACACCCGAAATGTCACCGAACCCGTGAAGACCCTGGAGGAGCACTCCCACTGGGT GTGGAACGTCCGCTACAACCACTCTCATGACCAGCTGGTCCTCACGGGCAGCAGTGACAGCAGAGTCATCCTTTC CAACATGGTGTCCATCTCGTCGGAGCCCTTCGGCCACTTGGTAGACGACGATGACATCAGTGACCAGGAGGACCA CCGTTCTGAAGAGAGAGCAAGGAGCCCCTGCAGGACAACGTGATCGCCACCTACGAGGAGCACGAGGACAGCGT $\tt CTATGCCGTGGACTGGTCCTCGGCTGACCCGTGGCTGTTTGCCTCCCTGAGCTATGACGGGAGGCTCGTGATCAA$ CAGGGTGCCCAGGGCCTGAAGTACCACATCCTGCTATGACTCCCGGGCCTGGGTTATCCAGGTCCCATTGAGTG GTTTTCCTCTTGGCAGATTCTCAAACAGTCGCAGCTCTTTGGAGGTGACTCGTGTTCCAGGTGGATCCCTCTCTG GGAGAGCCGCTGTTCCCTTCCTGTAGCAGCAGCATTTATGAATGGGGTGAATGGGGCTATTGTCGACGGCACAGC TAATGCCCGAACCCAGCCCTGTCGGCAGAGACAGAGCCCCACATTATTATGTGAATAACAATGTTTTCTGTTTT AAGGGTGTCAGGAGTTTCGCTTTTTAAAAAAATGTCTGTTCCTGCAGTAGTAACTCTTCTTCTCTTGAGAGTAA

697/6881 FIGURE 650

MEDDAPVIYGLEFQARALTPQTAETDAIRFLVGTQSLKYDNQIHIIDFDDENNIINKNVLLHQAGEIWHISASPA DRGVLTTCYNRTSDSKVLTCAAVWRMPKELESGSHESPDDSSSTAQTLELLCHLDNTAHGNMACVVWEPMGDGKK IISLADNHILLWDLQESSSQAVLASSASLEGKGQLKFTSGRWSPHHNCTQVATANDTTLRGWDTRSMSQIYCIEN AHGQLVRDLDFNPNKQYYLASCGDDCKVKFWDTRNVTEPVKTLEEHSHWVWNVRYNHSHDQLVLTGSSDSRVILS NMVSISSEPFGHLVDDDDISDQEDHRSEEKSKEPLQDNVIATYEEHEDSVYAVDWSSADPWLFASLSYDGRLVIN RVPRALKYHILL

698/6881 FIGURE 651

CCCAGGCGCAGCCAATGGGAAGGGTCGGAGGCATGGCACAGCCAATGGGAAGGGCCGGGGCACCAAAGCCAATGG ${\tt GAAGGGCCGGGAGCGCGGGGAGATTTAAAGGCTGCTGGAGTGAGGGGTCGCCCGTGCACCCTGTCCCAG}$ $\texttt{CCGTCCTGTCCTGCTCGCTCTGCTTCGCTGCGCCCCACT} \underline{\textbf{ATG}} \texttt{CTCTCCCTCCGTGTCCCGCTCGCGCCCCA}$ CCCTGAGCGGGACCCGCGTCCTGGCCAGCAAGACCGCGAGGAGGAGCCTACGGAGCCGAAAACTA AAGCAGCTGCCCCGGCGTGGAGGATGAGCCGCTGCTGAGAGAAAACCCCCGCCGCTTTGTCATCTTCCCCATCG AGTACCATGATATCTGGCAGATGTATAAGAAGGCAGAGGCTTCCTTTTGGACCGCCGAGGAGGTTGACCTCTCCA CAAGCGATGGCATAGTAAATGAAAACTTGGTGGAGCGATTTAGCCAAGAAGTTCAGATTACAGAAGCCCGCTGTT TCTATGGCTTCCAAATTGCCATGGAAAACATACATTCTGAAATGTATAGTCTTCTTATTGACACTTACATAAAAG $\tt ATCCCAAAGAAAGGGAATTTCTCTTCAATGCCATTGAAACGATGCCTTGTGTCAAGAAGAAGGCAGACTGGGCCT$ ${\tt TGCGCTGGATTGGGGACAAAGAGGCTACCTATGGTGAACGTGTTGTAGCCTTTGCTGCAGTGGAAGGCATTTTCT}$ TTTCCGGTTCTTTTGCGTCGATATTCTGGCTCAAGAAACGAGGACTGATGCCTGGCCTCACATTTTCTAATGAAC TCTTTGAGAAGAGAGTAGGCGAGTATCAGAGGATGGGAGTGATGTCAAGTCCAACAGAGAATTCTTTTACCTTGG GCTGAAGTGTTACCAACTAGCCACCATGAATTGTCCGTAATGTTCATTAACAGCATCTTTAAAACTGTGTAGC TTACCATAGCAGTGACAATGGCAGTCTTGGCTTTAAAGTGAGGGGTGACCCTTTAGTGAGCTTAGCACAGCGGGA TTAAATATAAACCTGGCACTTTACAAACAAATAAACATTGTTTTGTACTCACGGCGGCGATAATAGCTTGATTTA ${\tt TTTGGTTTCTACACCAAATACATTCTCCTGACCACTAATGGGAGCCAATTCACAATTCACTAAGTGACTAAAGTA}$ AGTTAAACTTGTGTAGACTAAGCATGTAATTTTTAAGTTTTTAATGAATTAAAAATATTTGTTAACCAACTT ${\tt TAAAGTCAGTCCTGTGTATACCTAGATATTAGTCAGTTGGTGCCAGATAGAAGACAGGTTGTGTTTTTATCCTGT}$ GGCTTGTGTAGTGTCCTGGGATTCTCTCTGCCCCCTCTGAGTAGAGTGTTGTGGGATAAAGGAATCTCTCAGGGCAA GGAGCTTCTTAAGTTAAATCACTAGAAATTTAGGGGTGATCTGGGCCTTCATATGTGTGAGAAGCCGTTTCATTT TATTTCTCACTGTATTTTCCTCAACGTCTGGTTGATGAGAAAAAATTCTTGAAGAGTTTTCATATGTGGGAGCTA AGGTAGTATTGTAAAATTTCAAGTCATCCTTAAACAAAATGATCCACCTAAGATCTTGCCCCTGTTAAGTGGTGA ${\tt AATCAACTAGAGGTGGTTCCTACAAGTTGTTCATTCTAGTTTTGGTGTAAGTAGGTTGTGTGAGTTAATTC}$ ATTTATATTTACTATGTCTGTTAAATCAGAAATTTTTTATTATCTATGTTCTTCTAGATTTTACCTGTAGTTCAT ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

699/6881 FIGURE 652

MLSLRVPLAPITDPQQLQLSPLKGLSLVDKENTPPALSGTRVLASKTARRIFQEPTEPKTKAAAPGVEDEPLLRE NPRRFVIFPIEYHDIWQMYKKAEASFWTAEEVDLSKDIQHWESLKPEERYFISHVLAFFAASDGIVNENLVERFS QEVQITEARCFYGFQIAMENIHSEMYSLLIDTYIKDPKEREFLFNAIETMPCVKKKADWALRWIGDKEATYGERV VAFAAVEGIFFSGSFASIFWLKKRGLMPGLTFSNELISRDEGLHCDFACLMFKHLVHKPSEERVREIIINAVRIE QEFLTEALPVKLIGMNCTLMKQYIEFVADRLMLELGFSKVFRVENPFDFMENISLEGKTNFFEKRVGEYQRMGVM SSPTENSFTLDADF

700/6881 FIGURE 653

GTCGCTGAGGCGCCC<u>ATC</u>GCCTTCGCCCGGCTCCTGCGGGGCCACTGTCGGGGGCCGCTGCTCGGGCGGCGC GGGGTCTGCGCTGGGGCCATGGCTCCGCCGCCGCTTCGTCCTGGAGCTTCCCGACTGCACCCTGGCTCACTTC GCCCTAGGCGCCGACGCCCCGGCGACGCCCCGACCCCCGCCTGGCGGCGCTGCTGGGGGCCCCCGGAG CAGCGCCTGCTGCACCAGCTGCGCCGCGCCCCTTCCAGCGGTGCCAGCTGCTCAGGCTGCTCTACTGCCCG GGCGGCCAGGCCGCCGCACAGCAAGGCTTCCTGCTGCGCGACCCCCTGGATGACCCCTGACACCCGGCAAGCG CAGCTGTGGCAGCGCCTCTGGGAGGTGCAAGACGGCAGGCGGCTGCAGGTGGGCTGCGCACAGGTCGTGCCCGTC CCGGAGCCCCGCTGCACCCGGTGGTGCCAGACTTGCCCAGTTCCGTGGTCTTCCCGGACCGGGAAGCCGCCCGG GCCGTTTTGGAGGAGTGTACCTCCTTTATTCCTGAAGCCCGGGCAGTGCTTGACCTGGTCGACCAGTGCCCAAAA CAGATCCAGAAAGGAAAGTTCCAGGTTGTTGCCATCGAAGGACTGGATGCCACGGGTAAAACCACGGTGACCCAG TCAGTGGCAGATTCACTTAAGGCTGTCCTCTTAAAGTCACCACCCTCTTGCATTGGCCAGTGGAGGAAGATCTTT GATGATGAACCAACTATCATTAGAAGAGCTTTTTACTCTTTGGGCAATTATATTGTGGCCTCCGAAATAGCTAAA GAATCTGCCAAATCTCCTGTGATTGTAGACAGGTACTGGCACAGCACGGCCACCTATGCCATAGCCACTGAGGTG AGTGGGGGTCTCCAGCACCTGCCCCCAGCCCATCACCCTGTGTACCAGTGGCCAGAGGACCTGCTCAAACCTGAC GAAGAAGCAGAACTTGAGGCCAACAGTGTGTTTCGTCAAAAGGTAGAAATGTCCTACCAGCGGATGGAGAATCCT GGCTGCCATGTGGTTGATGCCAGCCCCTCCAGAGAAAAGGTCCTGCAGACGGTATTAAGCCTAATCCAGAATAGT $\tt TTTAGTGAACCG{\color{red}{\textbf{TAG}}}{\tt TTACTCTGGCCAGGTGCCACGTCTAACTAGATTAGATGTTGTTTGAAACATCTACATCCA}$ TTAATTTTACTTCAGCCATCGTACCCTCTTCTGACTGATGGACCCGTCATCACAAAGGTCCCTCTCATCATGTTC CAGTGAGAGGCCAGCGATTGCTTCCTCGGCATAGTAAACATTTTCTTGGAACATATGTTTCACTTAATCACT ACCAAATATCTGGAAGACCTGTCTTACTCAGACAGCACCAGGTGTACAGAAGCAGCAGACAAGATCTTCCAGATC AGCAGGGAGACCCCGGAGCCTCTGCTTCTCCTACACTGGCATGCTGATGAGATCGTGACATGCCCACATTGGCTT ${\tt CTTCCACATCTGGTTGCACTCGTCATGATGGGCTCGCTGCATCTCCCTCAGTCCCAAATTCTAGAGCCAAGTGTT}$ CCTGCAGAGGCTGTCTATGTGTCCTGGCTGCCCAAGGACACTCCTGCAGAGCCATTTTTGGGTAAGGAACACTTA ${\tt CAAAGAAGGCATTGATCTTGTGTCTGAGGCTCAGAGCCCTTTTGATAGGCTTCTGAGTCATATAAAGACATTC}$ TTTTCTAAAGTATGGCTCTGAATAGAATGCACATTTTCCATTGAACTGGATGCATTTCATTTAGCCAATCCAGTA AAAACGCTAAATGCAATGTTTGTTGTTGTTTTCATTACACAAACTTAATTTGTCTTGTTAAATAAGTACAGTGG ATCTTGGAGTGGGATTTCTTGGTAAATTATCTTGCACTTGAATGTCTCATGATTACATATGAAATCGCTTTGACA TATCTTTAGACAGAAAAAAGTAGCTGAGTGAGGGGGAAATTATAGAGCTGTGTGACTTTAGGGAGTAGGTTGAAC CAGGTGATTACCTAAAATTCCTTCCAGTTCAAAGGCAGATAAATCTGTAAATTATTTTATCCTATCTACCATTTC TTAAGAAGACATTACTCCAAAATAATTAAATTTAAGGCTTTATCAGGTCTGCATATAGAATCTTAAATTCTAATA AAGTTTCATGTTAATGTCATAGGATTTTTAAAAGAGCTATAGGTAATTTCTATATAATATGTGTATATTAAAATG TAATTGATTTCAGTTGAAAGTATTTTAAAGCTGATAAATAGCATTAGGGTTCTTTGCAATGTGGTATCTAGCTGT CTTTATGTCCCTGGCACATGAATAAACTTTGCTGTGGTTTACT

MAFARRLIRGPLSGPLIGRRGVCAGAMAPPRRFVLELPDCTLAHFALGADAPGDADAPDPRLAALLGPPERSYSL CVPVTPDAGCGARVRAARLHQRLHQLRRGPFQRCQLLRLLCYCPGGQAGGAQQGFLLRDPLDDPDTRQALLELL GACQEAPRPHLGEFEADPRGQLWQRLWEVQDGRRLQVGCAQVVPVPEPPLHPVVPDLPSSVVFPDREAARAVLEE CTSFIPEARAVLDLVDQCPKQIQKGKFQVVAIEGLDATGKTTVTQSVADSLKAVLLKSPPSCIGQWRKIFDDEPT IIRRAFYSLGNYIVASEIAKESAKSPVIVDRYWHSTATYAIATEVSGGLQHLPPAHHPVYQWPEDLLKPDLILLL TVSPEERLQRLQGRGMEKTREEAELEANSVFRQKVEMSYQRMENPGCHVVDASPSREKVLQTVLSLIQNSFSEP

GTGGTGGGACTCGCGTCGCGGCCGCGGAGACGTGAAGCTCTCGAGGCTCCTCCCGCTGCGGGTCGGCGCTCGCCC AGCTGGCCGAGCAGCCGAGCGCTACGACGACATGGCCACCTGCATGAAGGCAGTGACCGAGCAGGGCCCGAGC TGTCCAACGAGGAGCGCAACCTGCTCTCCGTGGCCTACAAGAACGTGGTCGGGGGCCGCAGGTCCGCCTGGAGGG TCATCTCTAGCATCGAGCAGAAGACCGACACCTCCGACAAGAAGTTGCAGCTGATTAAGGACTATCGGGAGAAAG TGGAGTCCGAGCTGAGATCCATCTGCACCACGGTGCTGGAATTGTTGGATAAATATTTAATAGCCAATGCAACTA ATCCAGAGAGTAAGGTCTTCTATCTGAAAATGAAGGGTGATTACTTCCGGTACCTTGCTGAAGTTGCGTGGTG AACCCACACCCCAATCCGCCTGGGGCTTGCTCTTAACTTTTCTGTATTTACTATGAGATTCTTAATAACCCAG ACAAAGACAGCACCCTCATCATGCAGTTGCTTAGAGACAACCTAACACTTTGGACATCAGACAGTGCAGGAGAAG ${\tt AATGTGATGCGGCAGAAGGGGCTGAAAAC\underline{{\tt TAA}}{\tt ATCCATACAGGGTGTCATCCTTCTTCCTTCAAGAAACCTTTT}$ TACACATCTCCATTCCTTATTCCACTTGGATTTCCTATAGCAAAGAAACCCATTCATGTGTATGGAATCAACTGT TTATAGTCTTTTCACACTGCAGCTTTGGGAAAACTTCATTCCTTGATTTGTGTTTTGTCTTGGCCTTCCTGGTGTG ACTAAAAATGTATCTGGTATTTAAGTAATCTGAACCAGTTCTGCAAGTGACTGTTTTTGTATTACTGTGAAAAT AAGAAAATGTAGTTAATTACAATTTAAAGAGTATTCCACATAACTTCTTAATTTCTACATTCCCCCCTTACTCT TCGGGGGTTTCCTTTCAGTAAGCAACTTTTCCATGCTCTTAATGTATTCCTTTTTAGTAGGAATCCGGAAGTATT AGATTGAATGGAAAAGCACTTGCCATCTCTGTCTAGGGGTCACAAATTGAAATGGCTCCTGTATCACATACGGAG GTCTTGTGTATCTGTGGCAACAGGGAGTTTCCTTATTCACTCTTTATTTGCTGCTGTTTAAGTTGCCAACCTCCC CTCCCAATAAAAATTCACTTACACCTCCTGCCTTTGTAGTTCTGGTATTCACTTTACTATGTGATAGAAGTAGCA TGTTGCTGCCAGAATACAAGCATTGCTTTTGGCAAATTAAAGTGCATGTCATTTCTTAATACACTAGAAAGGGGA AATAAATTAAAGTACACAAGTCCAAGTCTAAAACTTTAGTACTTTTCCATGCAGATTTGTGCACATGTGAGAGGG TGTCCAGTTTGTCTAGTGATTGTTATTTAGAGAGTTGGACCACTATTGTGTGTTGCTAATCATTGACTGTAGTCC CAAAAAAGCCTTGTGAAAATGTTATGCCCTATGTAACAGCAGAGTAACATAAAATAAAAGTACATTTATAAACC ATTTACTATGGCTTTGTAACAATTGCATACCCATATTTTAAGGGACAGGTGAATTTACTACTTTCTAAAGTTTAT TGATACTTCCCTTTTATGTAAAATGTAGTAGTGATACCTATATTTCCACATTGTGCATTGTGACACACTTGTCTA GGGATGCCTGGAAGTGTATAAAATTGGACTGCATTTCTTAGAGTGTTTTACTATAGATCAGTCTCATGGGCCATC TCTTCCTCAGATGTAAATGATATCTGGTTAAGTGTTATATGGAATAAAGTGGACATTTTAAAACTA

703/6881 FIGURE 656

MEKTELIQKAKLAEQAERYDDMATCMKAVTEQGAELSNEERNLLSVAYKNVVGGRRSAWRVISSIEQKTDTSDKK LQLIKDYREKVESELRSICTTVLELLDKYLIANATNPESKVFYLKMKGDYFRYLAEVACGDDRKQTIDNSQGAYQ EAFDISKKEMQPTHPIRLGLALNFSVFYYEILNNPELACTLAKTAFDEAIAELDTLNEDSYKDSTLIMQLLRDNL TLWTSDSAGEECDAAEGAEN

GGCACGAGGCTCCGGTGTCTCTGTCGGTTGCAGTGTTGGAGGTCGGCGCCGGCCCCGCCTTCCGCGCCCCCAC ATCCCGAGCTGCTCCACGTCCACCATGCCGGGCATGATCTGCAAGAACCCAGACCTCGAGTTTGACTCGCTACAG CCCTGCTTCTACCCGGACGAAGATGACTTCTACTTCGGCGGCCCCGACTCGACCCCCCGGGGGAGGACATCTGG AAGAAGTTTGAGCTGCCCACGCCCCCGCTGTCGCCCAGCCGTGGCTTCGCGGAGCACAGCTCCGAGCCCCCG AGCTGGGTCACGGAGATGCTGCTTGAGAACGAGCTGTGGGGCAGCCCGGCCGAGGAGGACGCGTTCGGCCTGGGG CTGGAGCGCCGTGAGCGAGAAGCTGCAGCACGCCGCGGGCCGCCAACCGCCGGTTCCACCGCCCAGTCCCCG GAGCCAGCGCCGTGCCCGCAGCCCCGGCCAGTGCCCCGGCGGGGGCCCTGCGGTCGCCTCGGGGGCGGGTATT GCCGCCCAGCCGGGGCCCCGGGGGTCGCCCCTCCGCGCCCAGGCCGCCAGACCAGCCGGCGGCGACCACAAG GCCCTCAGTACCTCCGGAGAGGACACCCTGAGCGATTCAGATGATGAAGATGAAGAGGAAGATGAAGAGGAA GAAATCGACGTGGTCACTGTGGAGAAGCGGCGTTCCTCCTCCAACACCAAGGCTGTCACCACATTCACCATCACT GTGCGTCCCAAGAACGCAGCCCTGGGTCCCGGGAGGGCTCAGTCCAGCGAGCTGATCCTCAAACGATGCCTTCCC ATCCACCAGCAGCACAACTATGCCGCCCCCTCTCCCTACGTGGAGAGTGAGGATGCACCCCCACAGAAGAAGATA AAGAGCGAGGCGTCCCCACGTCCGCTCAAGAGTGTCATCCCCCCAAAGGCTAAGAGCTTGAGCCCCCGAAACTCT GACTCGGAGGACAGTGAGCGTCGCAGAAACCACAACATCCTGGAGCGCCAGCGCCGCAACGACCTTCGGTCCAGC TTTCTCACGCTCAGGGACCACGTGCCGGAGTTGGTAAAGAATGAGAAGGCCGCCAAGGTGGTCATTTTGAAAAAG GCCACTGAGTATGTCCACTCCCTCCAGGCCGAGGAGCACCAGCTTTTGCTGGAAAAGGAAAAATTGCAGGCAAGA $\texttt{CAGCAGCAGTTGCTAAAGAAAATTGAACACGCTCGGACTTGC} \underline{\textbf{TAG}} \texttt{ACGCTTCTCAAAACTGGACAGTCACTGCCA}$ CTTTGCACATTTTGATTTTTTTTTTAAACAAACATTGTGTTGACATTAAGAATGTTGGTTTACTTTCAAATCGGT CCCCTGTCGAGTTCGGCTCTGGGTGGGCAGTAGGACCACCAGTGTGGGGTTCTGCTGGGACCTTGGAGAGCCTGC ATCCCAGGATGCTGGGTGGCCCTGCAGCCTCCACCTCACCTCCATGACAGCGCTAAACGTTGGTGACGGTTG GGAGCCTCTGGGGCTGTTGAAGTCACCTTGTGTGTTCCAAGTTTCCAAACAACAGAAAGTCATTCCTTCTTTTTA AAATGGTGCTTAAGTTCCAGCAGATGCCACATAAGGGGTTTGCCATTTGATACCCCTGGGGAACATTTCTGTAAA TACCATTGACACATCCGCCTTTTGTATACATCCTGGGTAATGAGAGGTGGCTTTTGCGGCCAGTATTAGACTGGA AGTTCATACCTAAGTACTGTAATAATACCTCAATGTTTGAGGAGCATGTTTTGTATACAAATATATTGTTAATCT CTGTTATGTACTGTACTAATTCTTACACTGCCTGTATACTTTAGTATGACGCTGATACATAACTAAATTTGATAC TTATATTTTCGTATGAAAATGAGTTGTGAAAGTTTTGAGTAGATATTACTTTATCACTTTTTGAACTAAGAAACT TTTGTAAAGAAATTTACTATATATATATGCCTTTTTCCTAGCCTGTTTCTTCCTGTTAATGTATTTGTTCATGTT TGGTGCATAGAACTGGGTAAATGCAAAGTTCTGTGTTTAATTTCTTCAAAATGTATATATTTAGTGCTGCATCTT

MPSCSTSTMPGMICKNPDLEFDSLQPCFYPDEDDFYFGGPDSTPPGEDIWKKFELLPTPPLSPSRGFAEHSSEPP SWVTEMLLENELWGSPAEEDAFGLGGLGGLTPNPVILQDCMWSGFSAREKLERAVSEKLQHGRGPPTAGSTAQSP GAGAASPAGRGHGGAAGAGRAGAALPAELAHPAAECVDPAVVFPFPVNKREPAPVPAAPASAPAAGPAVASGAGI AAPAGAPGVAPPRPGGRQTSGGDHKALSTSGEDTLSDSDDEDDEEEDEEEEIDVVTVEKRRSSSNTKAVTTFTIT VRPKNAALGPGRAQSSELILKRCLPIHQQHNYAAPSPYVESEDAPPQKKIKSEASPRPLKSVIPPKAKSLSPRNS DSEDSERRNHNILERQRRNDLRSSFLTLRDHVPELVKNEKAAKVVILKKATEYVHSLQAEEHQLLLEKEKLQAR QQQLLKKIEHARTC

706/6881 FIGURE 659

GTCAGTCCCTCTGTAGCCGCCGCCGCCGCCGCCGCCCCCTCTGCCAGCAGCTCCGGCGCCACCTCGGGCCG GGCTCCGGCGTCTGCGCTTCCCCATGGGGCTGGCCTGCGGCGCCTCTGAGATTGTCACTGCTGTTCCA ${\tt ATCTCTTAGTTTTCCATAGGAACATCAAGAAATC} \underline{{\tt ATG}} {\tt AACAACTTTGGTAATGAAGAGTTTGACTGCCACTTCCT}$ CGATGAAGGTTTTACTGCCAAGGACATTCTGGACCAGAAAATTAATGAAGTTTCTTCTTCTGATGATAAGGATGC CTTCTATGTGGCAGACCTGGGAGACATTCTAAAGAAACATCTGAGGTGGTTAAAAGCTCTCCCTCGTGTCACCCC CTTTTATGCAGTCAAATGTAATGATAGCAAAGCCATCGTGAAGACCCTTGCTGCTACCGGGACAGGATTTGACTG TGCTAGCAAGACTGAAATACAGTTGGTGCAGAGTCTGGGGGGTGCCTCCAGAGAGGATTATCTATGCAAATCCTTG TAAACAAGTATCTCAAATTAAGTATGCTGCTAATAATGGAGTCCAGATGATGACTTTTGATAGTGAAGTTGAGTT GATGAAAGTTGCCAGAGCACATCCCAAAGCAAAGTTGGTTTTGCGGATTGCCACTGATGATTCCAAAGCAGTCTG TCGTCTCAGTGTGAAATTCGGTGCCACGCTCAGAACCAGCAGGCTCCTTTTGGAACGGGCGAAAGAGCTAAATAT CGATGTTGTTGGTGTCAGCTTCCATGTAGGAAGCGGCTGTACCGATCCTGAGACCTTCGTGCAGGCAATCTCTGA $\tt TGCCCGCTGTGTTTTTGACATGGGGGGTTGGTTTCAGCATGTATCTGCTTGATATTGGCGGTGGCTTTCC$ TGGATCTGAGGATGTGAAACTTAAATTTGAAGAGATCACCGGCGTAATCAACCCAGCGTTGGACAAATACTTTCC GTCAGACTCTGGAGTGAGAATCATAGCTGAGCCCGGCAGATACTATGTTGCATCAGCTTTCACGCTTGCAGTTAA TATCATTGCCAAGAAAATTGTATTAAAGGAACAGACGGGCTCTGATGACGAAGATGAGTCGAGTGAGCAGACCTT TATGTATTATGTGAATGATGGCGTCTATGGATCATTTAATTGCATACTCTATGACCACGCACATGTAAAGCCCCT TCTGCAAAAGAGACCTAAACCAGATGAGAAGTATTATTCATCCAGCATATGGGGACCAACATGTGATGGCCTCGA TCGGATTGTTGAGCGCTGTGACCTGCCTGAAATGCATGTGGGTGATTGGATGCTCTTTGAAAACATGGGCGCTTA CACTGTTGCTGCTGCCTCTACGTTCAATGGCTTCCAGAGGCCGACGATCTACTATGTGATGTCAGGGCCTGCGTG GTCTTGTGCCTGGGAGAGTGGGATGAAACGCCACAGAGCAGCCTGTGCTTCGGCTAGTATTAATGTG**TAG**ATAGC ACTCTGGTAGCTGTTAACTGCAAGTTTAGCTTGAATTAAGGGATTTGGGGGGGACCATGTAACTTAATTACTGCTA GTTTTGAAATGTCTTTGTAAGAGTAGGGTCGCCATGATGCAGCCATATGGAAGACTAGGATATGGGTCACACTTA TCTGTGTTCCTATGGAAACTATTTGAATATTTGTTTTATATGGATTTTTATTCACTCTTCAGACACGCTACTCAA GAGTGCCCCTCAGCTGCTGAACAAGCATTTGTAGCTTGTACAATGGCAGAATGGGCCAAAAGCTTAGTGTTGTGA CCTGTTTTTAAAATAAAGTATCTTGAAATAATTAGGC

MNNFGNEEFDCHFLDEGFTAKDILDQKINEVSSSDDKDAFYVADLGDILKKHLRWLKALPRVTPFYAVKCNDSKA IVKTLAATGTGFDCASKTEIQLVQSLGVPPERIIYANPCKQVSQIKYAANNGVQMMTFDSEVELMKVARAHPKAK LVLRIATDDSKAVCRLSVKFGATLRTSRLLLERAKELNIDVVGVSFHVGSGCTDPETFVQAISDARCVFDMGAEV GFSMYLLDIGGGFPGSEDVKLKFEEITGVINPALDKYFPSDSGVRIIAEPGRYYVASAFTLAVNIIAKKIVLKEQ TGSDDEDESSEQTFMYYVNDGVYGSFNCILYDHAHVKPLLQKRPKPDEKYYSSSIWGPTCDGLDRIVERCDLPEM HVGDWMLFENMGAYTVAAASTFNGFQRPTIYYVMSGPAWQLMQQFQNPDFPPEVEEQDASTLPVSCAWESGMKRH RAACASASINV

708/6881 FIGURE 661

ATGAGTCAGCAGCGGCGGCGAGGAAGTTACCCAGTCTCCTCGGACCCGACGGAGGAGACGGTTCGCCGTCGG TGCCGAGACCCCATCAACGTGGAGGGCCTGCTGCCATCAAAAATAAGGATTAATTTAGAAGATAATGTACAATAT ATGGATCTTGTCAGATCTGCTCCCGGGGGTATTCTTGACTTAAACAAGGTTGCAACGAAACTGGGAGTCCGAAAG CGGAGAGTGTATGACATCACCAATGTCTTAGATGGAATCGACCTCGTTGAAAAGAAATCCAAGAACCATATTAGA TGGATAGGATCTGATCTTAGCAATTTTGGAGCAGTTCCCCAACAAAAGAAGCTACAGGAGGAACTTTCTGACTTA TCAGCAATGGAAGATGCTTTGGATGAGTTAATTAAGGATTGTGCTCAGCAGCTGTTTGAGTTAACAGATGACAAA GAAAATGAAAGACTAGCATATGTGACCTATCAAGACATTCATAGCATTCAGGCCTTCCATGAACAGATCGTCATT GCAGTTAAAGCTCCAGCAGAAACCAGATTGGATGTTCCAGCTCCCAGAGAAGACTCTATCACAGTGCACATAAGG AGCACCAACGGACCTATCGATGTCTATTTGTGTGAAGTGGAGCAGGGTCAGACCAGTAACAAAAGGTCTGAAGGT GTCGGGACCTCTTCATCTGAGAGCACTCATCCAGAAGGCCCTGAGGAAGAAGAAAATCCTCAGCAAAGTGAAGAA $\tt TTGCTTGAAGTAAGCAACTGATGGCATTTGAGAATTTATGTATCACTGAGTTTTTTGGGAATATCTTCGTGGAGA$ ATTACGCATCAAATTTGATTCTCAGAGCAATAAATTATCCATGAAGTGCTCTCGTTCTCAGTAGCGGCATCATGG ${\tt CCAGTAGTGTCTTTGAGGAGTTCACCACTTAGATTACTGAGTAATTGTGGTTTCCACATTTGAAAACAACTCCTT}$ TTATAATTATTCACTGCTTTTTGTCAGTGAAATAGACATCTTGCCTCCTGAAGTAGCTTCATCACAGAGTGTCAT GAAGACAGACAGTCAGGCTGAAATGGACAGTTCTTTGTGGACTCTACCCTTCCCTTCAAGGAGTATGTCATATAT CACAAAAGAAATTGCCTTACACTGGTTCATGTTTGCAGTTACTGTTGTACATTGCATAGATGTACACACGAATTT TAGAATCCTCTGGATGAGGGTTAGAAGAGACTTTTTCCAAACTTCTACATGTAGAAGTATCATAAATGTGCTACA CATTTATGTTGTGGATTTAATTAAAGTATTTTAATATGGTTTTCAGTGCTAAAATTGGAGTCAGATACTTCTTG GTTTTAAGCTGTCTACCTAATTGCTGTCTCCCAGCAGACTGGTGGCATGCCCAGTGGCTTTGGGGGCAAGGATAG AAATGCCATCAGGAAATAGCTGAATTCATTGTGAAACATGAATTCAGTCATGGTGATAATTGGAAACTCCTTTCA GACAAGTTGTACCTTGCCCTCTCCCAGCTCTGCTCCCACATTTTCACATACCTAGCTGTTTCTACCTCATTGGG TAAGTCATTTACCACTCTGTGCCTCAGTTTACTCTGTAGTTTACCATTAGACTGTGAGCTCCTTGAGGGACTTTG TCATAATCACTGTTACATCCCAGTGCCTCACACCATGCCTGGCCCTTAAGAAGTGCTCAATAAATGTCTGAACAA ATAA

CTCTGTAGCTGTGACCCTGATACCGCGTGGTGTGCTCCGAACACATGGTGCCCCAGAACGAAGGCGGCGTCCAGAA CCGTTCTCCCGGGGCTGAGTCCCTGCCCGGACTCCGAACGCCGAAGACCAGGGGCCGGAAGCCGCGCCGCCACT GCCACGCCGTGTCAGTCGGGAGGGAGGGAGCGAGCAGCCGAGGCGGAGGACGGGGTGAAG<u>ATC</u>GCGGCCTTC TCCGAGATGGGTGTAATGCCTGAGATTGCACAAGCTGTGGAAGAGATGGATTGGCTCCTCCCAACTGATATCCAG GCTGAATCTATCCCATTGATCTTAGGAGGAGGTGATGTACTTATGGCTGCAGAAACAGGAAGTGGCAAAACTGGT GCTTTTAGTATTCCAGTTATCCAGATAGTTTATGAAACTCTGAAAGACCAACAGGAAGGCAAAAAAGGAAAAACA ACAATTAAAACTGGTGCTTCAGTGCTGAACAAATGGCAGATGAACCCATATGACAGAGGATCTGCTTTTGCAATT GGGTCAGATGGTCTTTGTTGTCAAAGCAGAAGTAAAGGAATGGCATGGGTGTAGAGCTACTAAAGGATTAATG AAAGGGAAACACTACTATGAAGTATCCTGTCATGACCAAGGGTTATGCAGGGTCGGGTGGTCTACCATGCAGGCC GATAATTATGGAGAGGAATTCACTATGCATGATACCATTGGATGTTACCTGGATATAGATAAGGGACATGTCAAG TTCTCCAAAAATGGAAAAGATCTTGGTCTGGCATTTGAAATACCACCACATATGAAAAACCAAGCCCTCTTTCCT GCCTGTGTTTTGAAGAATGCTGAACTGAAATTTAACTTCGGTGAAGAGAATTTAAGTTTCCACCAAAAGATGGC TTTGTTGCTCTTTCCAAGGCACCGGATGGTTACATTGTCAAATCACAGCACTCAGGTAATGCACAGGTGACACAA ACAAAGTTTCTCCCCAATGCTCCGAAAGCTCTCATTGTTGAACCTTCCCGGGAGTTAGCTGAACAAACTTTGAAC AACATCAAGCAGTTTAAGAAATACATTGATAATCCTAAATTAAGGGAGCTTCTGATAATTGGAGGTGTTGCAGCC CGGGATCAGCTCTCTGTTTTGGAAAATGGAGTAGATATAGTTGTAGGTACTCCGGGAAGACTAGATGACTTGGTG TATTCTGATTTTATAAATAGGATGCACAATCAGATTCCTCAGGTTACCTCTGATGGAAAAAAGACTTCAGGTGATT GTTTGCTCTGCCACTTTGCATTCTTTCGATGTAAAGAAACTGTCCGAGAAGATAATGCATTTTCCTACATGGGTT GACTTAAAAGGAGAAGACTCTGTTCCAGATACTGTACACCATGTTGTTGTCCCAGTAAATCCCAAAACTGACAGA CTCTGGGAAAGGCTTGGAAAGACCCACATTAGAACTGATGATGTACATGCAAAAGATAACACAAGACCTGGTGCT AATAGTCCAGAGATGTGGTCTGAAGCTATTAAAATCCTGAAAGGGGAGTATGCTGTCCGGGCAATCAAGGAACAT AAGATGGATCAAGCAATTATCTTCTGTAGAACCAAAATTGACTGTGATAACTTGGAGCAGTACTTTATACAACAA GGAGGAGGACCTGATAAAAAAGGACACCAGTTCTCATGTGTTTGTCTTCATGGTGACAGAAAGCCTCATGAGAGA AAGCAAAACTTGGAAAGATTTAAGAAAGGAGATGTAAGATTCTTGATTTGCACAGATGTAGCTGCTAGAGGAATT GATATCCACGGTGTTCCTTATGTTATAAATGTCACTCTGCCCGATGAAAAGCAAAACTACGTACATCGAATTGGC AGAGTAGGAAGAGCTGAAAGGATGGGTCTGGCAATTTCCCTGGTGGCAACAGAAAAAGAAAAGGTTTGGTACCAT GTATGTAGCAGCCGTGGAAAAGGGTGTTATAACACAAGACTCAAGGAAGATGGAGGCTGTACCATATGGTACAAC GAGATGCAGTTACTATCTGAGATAGAAGAACACCTGAACTGTACCATTTCTCAGGTTGAGCCGGATATAAAGGTA CCAGTGGATGAATTTGATGGGAAAGTTACCTACGGTCAGAAAAGGGCTGCTGGTGGTAGAAGCTATAAAGGCCAT GTGGATATTTTGGCACCTACTGTTCAAGAGTTGGCTGCCCTTGAAAAGGAGGCGCAGACATCTTTCCTGCATCTT GGCTACCTTCCTAACCAGCTGTTCAGAACCTTC<u>TGA</u>TTTTTACATTTACTGAATAAGATTTGAGTAATGAAAGTC TGTAGTCTTAAAACTCTAAAACAGTTGTACTGCTTCCAAGCAGCAGTATTTATAGTAACGTAAGCTATTAATGCT ACTATA

MAAFSEMGVMPEIAQAVEEMDWLLPTDIQAESIPLILGGGDVLMAAETGSGKTGAFSIPVIQIVYETLKDQQEGK
KGKTTIKTGASVLNKWQMNPYDRGSAFAIGSDGLCCQSREVKEWHGCRATKGLMKGKHYYEVSCHDQGLCRVGWS
TMQASLDLGTDKFGFGFGGTGKKSHNKQFDNYGEEFTMHDTIGCYLDIDKGHVKFSKNGKDLGLAFEIPPHMKNQ
ALFPACVLKNAELKFNFGEEEFKFPPKDGFVALSKAPDGYIVKSQHSGNAQVTQTKFLPNAPKALIVEPSRELAE
QTLNNIKQFKKYIDNPKLRELLIIGGVAARDQLSVLENGVDIVVGTPGRLDDLVSTGKLNLSQVRFLVLDEADGL
LSQGYSDFINRMHNQIPQVTSDGKRLQVIVCSATLHSFDVKKLSEKIMHFPTWVDLKGEDSVPDTVHHVVVPVNP
KTDRLWERLGKSHIRTDDVHAKDNTRPGANSPEMWSEAIKILKGEYAVRAIKEHKMDQAIIFCRTKIDCDNLEQY
FIQQGGGPDKKGHQFSCVCLHGDRKPHERKQNLERFKKGDVRFLICTDVAARGIDIHGVPYVINVTLPDEKQNYV
HRIGRVGRAERMGLAISLVATEKEKVWYHVCSSRGKGCYNTRLKEDGGCTIWYNEMQLLSEIEEHLNCTISQVEP
DIKVPVDEFDGKVTYGQKRAAGGGSYKGHVDILAPTVQELAALEKEAQTSFLHLGYLPNQLFRTF

711/6881 FIGURE 664A

GAACATGGCGGCCCCGAGTCAGGGCCGGCTTTGAGTCCAGGCACTGCAGAGGCCTAGAGGCAACCAAAAACATG GTGCATCCTTTATCATCACGAAAGCAATTCGAGATCGTTTATTATTTTTACGCCAATACATCTGGTACAGCCCGG CACCTTTTTTGCTCCCTGATGGACTGGTTCGCTTGGTTAATAAACAGATAAACTGGCATTTGGTACTTGCAAGCA ATAGCACTAGAGTGCATCTATACCTGTGAACGAAATGATCAACTCTGTCTTTGCTATGACCTACTAGAATGTCTG CCAGAAAGAGATATGGTGATAAGACAGAGGCAACCACAAAGCTTCATGACATGGTAGACCAACTGGAACAAATT CTCAGTGTGTCAGAGCTTTTGGAAAAACATGGACTCGAGAAACCAATTTCATTTGTTAAAAACACTCAATCTAGC TCAGAAGAGCCACGCAAGCTGATGGTTAGATTGACGAGGCACACTGGCCGGAAGCAGCCTCCTGTCAGTGAGTCT CATTGGAGAACGTTGCTGCAAGACATGTTAACTATGCAGCAGAATGTATACACATGTCTAGATTCTGATGCCTGC TGCAGTGCTTGTTCAGAAAATCCTCCAGCTGGTATAGCCCATAAAGGGAAACCCCACTACAGGGTCAGCTACGAA AAGAGTATTGACTTGGTTTTTGGCTGCCAGCAGAGAGTACTTCAATTCTTCTACCAACCTCACTGATAGCTGCATG GATCTAGCCAGGTGCTGCTTACAACTGATAACAGACACCCCCTGCCATTCAAGAGGAGCTAGATCTTATCCAA GCCGTTGGATGTCTTGAAGAATTTGGGGTAAAGATCCTGCCTTTGCAAGTGCGATTGTGCCCTGATCGGATCAGT CTCATCAAGGAGTGTATTTCCCAGTCCCCCACATGCTATAAACAATCCACCAAGCTTCTGGGCCTTGCTGAGCTG CTGAGGGTTGCAGGTGAGAACCCAGAAGAAAGGCGGGGACAGGTTCTAATCCTTTTAGTGGAGCAGGCACTTCGC TTCCATGACTACAAAGCAGCCAGTATGCATTGTCAGGAGCTGATGGCCACAGGTTATCCTAAAAGTTGGGATGTT TGTAGCCAGTTAGGACAATCAGAAGGTTACCAGGACTTGGCCACTCGTCAAGAGCTCATGGCTTTTGCTTTGACA GTGAATTTCCAGATCCATCATGAAGGAGGGGAAAATATCAGTGCTTCACCATTAACTAGTAAAGCAGTACAAGAG GATGAAGTAGGTGTTCCAGGTAGCAATTCAGCTGACCTATTGCGCTGGACCACTGCTACCACCATGAAAGTCCTT TCCAACACCACAACCACCACAAAGCGGTGCTGCAGGCCGTCAGTGATGGGCAGTGGTGGAAGAAGTCTTTAACT TACCTTCGACCCCTTCAGGGGCAAAAATGTGGTGGTGCATATCAAATCGGAACTACAGCCAATGAAGATCTAGAG AAACAAGGGTGTCATCCTTTTTATGAATCTGTCATCTCAAATCCTTTTGTCGCTGAGTCTGAAGGGACCTATGAC ACCTATCAGCATGTTCCAGTGGAAAGCTTTGCAGAAGTATTGCTGAGAACTGGAAAATTGGCAGAGGCTAAAAAT AAAGGAGAAGTATTTCCAACAACTGAAGTTCTCTTGCAACTAGCAAGTGAAGCCTTGCCAAATGACATGACCTTG GCTCTTGCTTACCTTCTTGCCTTACCACAAGTGTTAGATGCTAACCGGTGCTTTGAAAAGCAGTCCCCCTCTGCA TTATCTCTCCAGCTGGCAGCGTATTACTATAGCCTCCAGATCTATGCCCGATTGGCCCCATGTTTCAGGGACAAG TGCCATCCTCTTTACAGGGCTGATCCCAAAGAACTAATCAAGATGGTCACCAGGCATGTGACTCGACATGAGCAC GAAGCCTGGCCTGAAGACCTTATTTCACTGACCAAGCAGTTACACTGCTACAATGAACGTCTCCTGGATTTCACT CAGGCGCAGATCCTTCAGGGCCTTCGGAAGGGTGTGGACGTGCAGCGGTTTACTGCAGATGACCAGTATAAAAGG GAAACTATCCTTGGTCTGGCAGAAACTCTAGAGGAAAGCGTCTACAGCATTGCTATTTCTCTGGCACAACGTTAC AGTGTCTCCCGCTGGGAAGTTTTTATGACCCATTTGGAGTTCCTCTCACGGACAGTGGTTTGTCCACACTAGAA ATTGAAAATAGAGCCCAAGACCTTCATCTCTTTGAGACTTTGAAGACTGATCCAGAAGCCTTTCACCAGCACATG GTCAAGTATATTTACCCTACTATTGGTGGCTTTGATCACGAAAGGCTGCAGTATTATTTCACTCTTCTGGAAAAC TGTGGCTGTGCAGATTTGGGGAACTGTGCCATTAAACCAGAAACCCACATTCGACTGCTGAAGAAGTTTAAGGTT GTTGCATCAGGTCTTAATTACAAAAAGCTGACAGATGAAAACATGAGTCCTCTTGAAGCATTGGAGCCAGTTCTT TCAAGTCAAAATATCTTGTCTATTTCCAAACTTGTTCCCAAAATCCCTGAAAAGGATGGACAGATGCTTTCCCCA AGCTCTCTGTACACCATCTGGTTACAGAAGTTGTTCTGGACTGGAGACCCTCATCTCATTAAACAAGTCCCAGGC TCTTCACCGGAGTGGCTTCATGCCTATGATGTCTGCATGAAGTACTTTGATCGTCTCCACCCAGGTGACCTCATC AGAAAGGCTATTAAGACAGTCAAACATTTTATTGAGAAGCCAAGGAAAAGAAACTCAGAAGACGCAAGCTCAAGAA GCTAAGGATTCTAAAGTTACCTATGCAGATACTTTGAATCATCTGGAGAAATCACTTGCCCACCTGGAAACCCTG AGCCACAGCTTCATCCTTTCTCTGAAGAATAGTGAGCAGGAAACACTGCAAAAATACAGTCACCTCTATGATCTG TCCCGATCAGAAAAAGAGAAACTTCATGATGAAGCTGTGGCTATTTGTTTAGATGGTCAGCCTCTAGCAATGATT CAGCAGCTGCTAGAGGTGGCAGTTGGCCCTCTTGACATCTCACCCAAGGATATAGTGCAGAGTGCAATCATGAAA ATAATTTCTGCATTGAGTGGTGGCAGTGCTGACCTTGGTGGGCCCAAGGGACCCACTGAAGGTCCTGGAAGGTGTT GTTGCAGCAGTCCACGCCAGTGTGGACAAGGGTGAGGAGCTGGTTTCACCTGAGGACCTGCTGGAGTGGCTGCGG CCTTTCTGTGCTGATGACGCCTGGCCGGTGCGGCCCCGCATTCACGTGCTGCAGATTTTGGGGCAATCATTTCAC

712/6881 FIGURE 664B

MRSRLRSVSSASGFLGYDVVRDVSSGPFWRRKNGDPCLDLCGRDSSTVWKRGDSPRKREEERSLGISQYLCPNLF SPTEAVKSKAICLVSISELQAASSGLSSWWLEQGKCGLIEMGSGFRMFHVSVSFSHIVRNRTVPLMRWYLAAMQI MRGEKQAASGNPAIEAGWERTGAQM

AGCCGTTTGAGTTTGGCTGCGGGTGGAGAACGTTTGTCAGGGGCCCGGCCAAGAAGGAGGCCCGCCTGTTACGAT GTGTCCATGAGTTTCAAGCGGAACCGCAGTGACCGGTTCTACAGCACCCGGTGCTGCGGCTGTTGCCATGTCCG CACCGGGACGATCATCCTGGGGACCTGGTACATGGTAGTAAACCTATTGATGGCAATTTTGCTGACTGTGGAAGT GACTCATCCAAACTCCATGCCAGCTGTCAACATTCAGTATGAAGTCATCGGTAATTACTATTCGTCTGAGAGAAT GGCTGATAATGCCTGTGTTCTTTTTGCCGTCTCTGTTCTTATGTTTATAATCAGTTCAATGCTGGTTTATGGAGC **AATTTCTTATCAAGTGGGTTGGCTGATTCCATTCTTCTGTTACCGACTTTTTGACTTCGTCCTCAGTTGCCTGGT** TGCTATTAGTTCTCTCACCTATTTGCCAAGAATCAAAGAATATCTGGATCAACTACCTGATTTTCCCTACAAAGA GGCTTATCTAATTAACTGTGTTTGGAACTGCTATAAATACATCAACAACCGAAACGTGCCGGAGATTGCTGTGTA CCCTGCCTTTGAAGCACCTCCTCAGTACGTTTTGCCAACCTATGAAATGGCCGTGAAAAATGCCTGAAAAAGAACC TGTTACAGAATGCTGCAATTCAGGGCTCTTCAAACTTGTTTGATATAAAATATGTTGTCTTTTGTTTAAGCATTT ATAGTTTTTGAAGACAATCTAGGTTAAGCAAGAGCAAAGTGCCATTGTTTGCCTTTAATTGGGGGGTGGGAAGGG TACCCTGAGTACTTTCAGGAAGACTGACTTAAATATTCGGGGTGAGTAAGTTGGGTATAAGATCTGAACTTT TCATCTGCAGAGGCAAGAAAAATATTTGACATTGTGACTTGACTGTGGAAGATGATGGTTGCATGTTTCTAGTTT GTATATGTTTCCATCTTTGTGATAAGATGATTTAATAAATCTCTTTAAATACTT

716/6881 FIGURE 668

MVSMSFKRNRSDRFYSTRCCGCCHVRTGTIILGTWYMVVNLLMAILLTVEVTHPNSMPAVNIQYEVIGNYYSSER MADNACVLFAVSVLMFIISSMLVYGAISYQVGWLIPFFCYRLFDFVLSCLVAISSLTYLPRIKEYLDQLPDFPYK DDLLALDSSCLLFIVLVFFALFIIFKAYLINCVWNCYKYINNRNVPEIAVYPAFEAPPQYVLPTYEMAVKMPEKE PPPPYLPA

GCGGCTTGCGGGGACCACAGCTCCCGAAAGCGACGTTCGGCCACCGGAGGAGCGGGAGCCAAGCAGGCGGAGCTC GGCGGGAGAGGTGCGGGCCGAATCCGAGCCGAGCGGAGAGGAATCCGGCAGTAGAGAGCGGACTCCAGCCGGCGG ACCCTGCAGCCCTCGCCTGGGACAGCGGCGCGCTGGGCAGGCGCCCCAAGAGAGCATCGAGCAGCGGAACCCGCGA $\tt CTCTGGCTCTGGCGCTGGCGCTGAGCCTGCAGCCGGCCCTGCCGCAAATTGTGGCTACTAATTTGCCC$ CCTGAAGATCAAGATGGCTCTGGGGATGACTCTGACAACTTCTCCGGCTCAGGTGCAGGTGCTTTGCAAGATATC ACCTTGTCACAGCAGACCCCCTCCACTTGGAAGGACACGCAGCTCCTGACGGCTATTCCCACGTCTCCAGAACCC GTCCTGCCAGAAGTGGAGCCTGGCCTCACCGCCCGGGAGCAGGAGGCCACCCCCGACCCAGGGAGACAGCATCA GGGTTAAGAAGACTTTTTTTTTTTTTTTTTAAACTAGGAGAACCAAATCTGGAAGCCAAAATGTAGGCTTAGTTT GCCCAGGGCTCCTGCACTTACTTGCTTATTTGACAACGTTTCAGCGACTCCGTTGGCCACTCCGAGAGGTGGGCC AGTCTGTGGATCAGAGATGCACCACCAAGCCAAGGGAACCTGTGTCCGGTATTCGATACTGCGACTTTCTGCCTG GAGTGTATGACTGCACATGACTCGGGGGTGGGGAAAGGGGTCGGCTGACCATGCTCATCTGCTGGTCCGTGGGAC GGTGCCCAAGCCAGAGGCTGGGTTCATTTGTGTAACGACAATAAACGGTACTTGTCATTTCGGGC

ACTGCGCGCCCGCCGGAGTCCCCGCCGCCGTC<u>ATC</u>CAGTCCCCGGCGGTGCTCGTCACCTCCAGGCGACTTCA GAATGCCCACACTGGCCTCGACCTGACTGTGCCCCAGCACCAGGAGGTACGGGGCAAGATGATGTCTGGACACGT GGAGTACCAGATCCTGGTGGTGACCCGTCTGGCTGCGTTCAAGTCGGCCAAGCACAGGCCCGAGGATGTCGTCCA GTTCTTGGTCTCCAAAAAGTACAGCGAGATTGAGGAGTTTTACCAGAAACTGAGCAGTCGTTATGCAGCAGCCAG CCTCCCCCACTACCCAGGAAGGTCCTGTTTGTTGGGGGAGTCTGACATCCGGGAGAGGAGAGCCGTGTTCAATGA AGAGGCTTTCGACTTTTTGAGGAGCAAGACCAAGTGGCAGAAGAGGGTCCGCCCGTCCAGAGCCTGAAGGGCGA GGATGCTGAGGAATCCTTGGAGGAGGAGGAGGCGCTGGACCCTCTGGGCATTATGCGCTCCAAGAAGCCCAAGAA ACATCGGTGTGAAGGGAAGGGACTGGGCCCTGCAGGGTCAGAACCTCCCCACCCCCAGGGGAGGCCAGGCAGAAG CCTGGGTCACAGCACCCAGAACTGCATGGTTCCATTTTCTCCGGGGCTGTGGGGCCAAAGTAGAAGCCTGCGGGC TGTGGGGATGCCTTGCCAACCAGAAGCCCAGCCCCAAGGA<u>TGA</u>AGCAAGACATGTGGGGGCCGTAGCGAGGTGTCA CATGGGGCAGGGAAGCTTCATGCCCACGGGTTCTGCCAGCCCCAGCACAGACCCAAACTGGGGCTGGGCCTCTAT CCCTCCTCTGCCTCTGTTCGCATAGTAAGAAGGAGTGACCGGTATCCTCCCCTTCCCCTACCCTAAGCTGTAGCC TGGGTGACTGACTGGCCTGGGCTGGGGTGGGGACGTCCCCAAGCCAAATTACTCCAGGGCCTCTGCTCCTCGTG GCTGCCAGGGGCCTGCAGGGTCTGGGTGGGTCTCCCAGGAGAGGAATACTGAGTGGGAGATCGGCTGTCTGGAGT GTTCTGATGCAAGTCTCTCTCTCTGAGCCTCCTCTTGATGCAAGCTCTAAAGGGAGAAGTCAGGCCCTGCCTCT CCAGGGTATAGACGGCCCTGCTAGGCCCCAGTTCTTCCTCCTTCCCCCTTTCCCAGGAAAGGCCAGCCCAGTCCA TGGCCTTCTTGGGCCTCTGGGCACAGAGCCAATGTTCGTCATTGCAGCTCTCAGCAAACTGGGTCATAGCTTTCC CCACAGCTCAGCCTGGGGCCTGGGCAGGGCTCCCAGCCTGCACCGCCTCCCACTGCCAGTGGGGCATGATTCTCT CAGGCTTCTGCCCCGAGGCCTTCGTCGTCCTCAGGGTCTGGACTTGGTCAGTGGCCTTTCACCAGTGGAGCTGCC TTCCCAGGGAGAAGGAGCCGTGCCCAGGGCCAGGGCCCGTGCCTTAGACTTCTCCCGACCCCCAGAGCGCTGGTA CACAGGTCTAGGCACCACACAGTGCTTTGGAAATTCTCAGTGAATGATGTTTAATAAAGCAAAAAATGTC

MQSPAVLVTSRRLQNAHTGLDLTVPQHQEVRGKMMSGHVEYQILVVTRLAAFKSAKHRPEDVVQFLVSKKYSEIE EFYQKLSSRYAAASLPPLPRKVLFVGESDIRERRAVFNEILRCVSKDAELAGSPELLEFLGTRSPGAAGLTSRDS SVLDGTDSQTGNDEEAFDFFEEQDQVAEEGPPVQSLKGEDAEESLEEEEALDPLGIMRSKKPKKHRCEGKGLGPA GSEPPHPQGRPGRSLGHSTQNCMVPFSPGLWGQSRSLRAAGAALTLGARAQCVLFPVDMKGREGVGMPCQPEAQP QG

GAACCTTCTGTACCAACTAGAGTGAGGAAAAAGAAGAAGAAACAAAGGGACCAGATGCAGTCAGCAAACTGCCA CTGGTGACACCTCACACTCAGTGCCGGTTAAAATTACTGACATTAGAGAGAATTAAAGACTATCTTCTCATGGAG GAAGAATTCATTAGAAATCAGGAACAGATGAAACCATTAGAAGAAAAGCAAAAGGAGGAAAGATCAAAAGTGGAT GATCTGAGGGGGACCCCGATACAAGGATCTTCTGGAAACTGGCTGCTCGGTCCTGCTCAACCACAAGGTGCATGC CGTGATGGGGTGCTGATGGATGACACGGATCCCCTGGTCACAGTGATGAAAAAGACCCCCCAGGAGACC TATGCCAATATTGGGGGGCTGGACAACCAAATTCAGGAAATAAAGGAAGCTGTGGAGTTTCCTCTCACCCATCCT GAATATTATGAAGAGATGGGTAAAAAGCCTCCTAAGGGGGTCATTCTCTATGGTCCACCTGGCACAGGCAAAACC TTGTTATCCAAAGCAGTAGCAAACCTCAGCCACTTTCTTGAGAGTGGTTGGCTCTGAACTTATTCAGAAG TACCTAGTTGCTGAAGAGCATGAACTATCCATCATGTTTACTGATGAAATTGGAGCCATTGGGACAAAAAGATAT TTTCAGAATCACACAAGCAGGATGACACTGGCCGATGAAGTAACCCTGGACGACTTGATCATGGTTAAAGATGAC CTCTCTGGTGCTGACATCAAGGCAATCTGTACAGAAGCTGGTCTGATGGCCTCAAGAGAACGTAGAATGAAAGTA ACGAATGAATTCTTCAAAAAATATAAAGAAATGTTCTTTATAAGAAACAGGAAGGCACCCCTGAGGGGCTCTATC TCTAGTGAACCACAGCTGCCATCAGGAAAATGGTTGGGCGATTCCTCGACCCCTGAAAAGGATGAGCAACTTGTT CCCAAAGCTGGAGAAGACACTCCTGAGGGCTATTTAGGACAACTTATGACTCAGCTCTTTGAGCAGAAAGAGGCC AAAAAGTTCAGCAGAAAAAGCCCTGAACTCTTGGAAGAGCTGGCTTCAAGCCTGGCT<u>TAG</u>

MGQSQSGGHGPGSGKKDDKDKKKKYEPSVPTRVRKKKKKTKGPDAVSKLPLVTPHTQCRLKLLTLERIKDYLLME EEFIRNQEQMKPLEEKQKEERSKVDDLRGTPIQGSSGNWLLGPAQPQGACRDGVLMDDTDPLVTVMKMEKTPQET YANIGGLDNQIQEIKEAVEFPLTHPEYYEEMGKKPPKGVILYGPPGTGKTLLSKAVANQTSATFLRVVGSELIQK YLVAEEHELSIMFTDEIGAIGTKRYDSNSGGRIDRKIKFSLPDERTKKRIFQNHTSRMTLADEVTLDDLIMVKDD LSGADIKAICTEAGLMASRERRMKVTNEFFKKYKEMFFIRNRKAPLRGSISSEPQLPSGKWLGDSSTPEKDEQLV PKAGEDTPEGYLGQLMTQLFEQKEAKKFSRKSPELLEELASSLA

 ${\tt GACGGCGCCTTCGCGAAACACT} \underline{{\tt ATG}} {\tt CTAATGGCATGGTGCCGCGGTCCTGTCTTGCTGTGCCTGCGGCAGGGGCT}$ CGGAACCAATTCATTCCTGCACGGCCTGGGGCAGGAGCCCTTCGAGGGAGCTCGGTCACTGTTGCAGGTCCTC GCCTAGAGACCTGCGAGATGGAGAAGAGAGAGCACGAGGCGCACAAAGGAAAGCCCCCAGGAGCAGAGTCTTGCCC ATCTCTCCCTCTGAGCATCTCGGACATTGGGACTGGATGTCTTTCGTCACTGGAAAACCTCAGACTGCCGACGCT GCGGGAAGAGTCATCACCTCGAGAGCTCGAGGACTCGAGCGGAGACCAGGGCCGGTGCGGTCCCACACACCAGGG ATCCGAGGATCCTTCGATGCTCTCGCAGGCCCAGTCCGCTATCGAGGTCGAAGAGCGTCACGTCTCCCCTTCTTG TAAGAAATTATTTAGGTTGAACAACTTCGGACTCTTAAATAGTAACTGGGGGGCAGTCCCGTTCGGCAAGATCGT GGGGAAGTTCCCCGGCCAGATACTGAGGAGTTCCTTCGGTAAGCAGTACATGCTGAGGAGGCCAGCCTTGGAAGA CTATGTAGTATTGATGAAAAGAGGGACTGCCATAACATTCCCAAAGGATATTAATATGATTCTCTCAATGATGGA TATCAACCCAGGTGATACTGTTTTGGAAGCTGGCTCAGGCTCTGGTGGAATGAGCTTATTTTTATCCAAAGCAGT TGGATCACAAGGACGAGTCATAAGTTTTGAGGTACGAAAAGACCACCATGATCTGGCTAAGAAGAATTACAAACA CTGGCGTGATTCATGGAAATTAAGTCATGTAGAAGAGTGGCCAGACAATGTGGATTTTATTCATAAGGACATTTC AGGAGCAACCGAAGACATAAAATCTTTAACATTTGACGCAGTAGCTTTGGATATGTTAAATCCTCATGTTACTTT GCCTGTTTTTTACCCACATCTTAAGCATGGTGGTGTATGTGCTGTATATGTAGTAAACATCACACAGGTTATTGA ACTTTTAGATGGAATTCGCACCTGTGAACTTGCTCTTTCATGTGAAAAGATAAGCGAGGTCATTGTCAGAGATTG GTTGGTTTGCCTTGCAAAACAGAAAATGGAATTTTAGCTCAAAAAGTAGAATCTAAAATCAACACAGATGTACA ACTAGATTCTCAAGAGAAAATTGGAGTTAAAGGTGAGCTGTTTCAAGAGGATGACCATGAAGAATCGCATTCTGA TTTTCCATATGGATCATTTCCCTATGTTGCTAGACCAGTACACTGGCAACCTGGTCATACAGCTTTTCTTGTCAA ${\tt GTTGAGGAAGGTCAAACCACAACTTAAC} \underline{{\tt TGA}}{\tt GTACTCCAGATGACAGTAACTGACTTGAAGATGGAAAAATATCA}$ AAATAGAACTTTATATTGAAAATCACTGCTTCCATAGATTGGCATTTTTAGCTATTACTATGACTTATAAACTT ATACATATAATTTTGAAAATAACAACTAAAAGATGTATAACATAGCAAAACTGCTTAAACATCCCATTTTGACAC TTGTCTTGCAGTTAGTTTGACATTTTGTAGTTAATGATTCCAAATTGGTTTAGTTGGGCCATCTCATTCTTCACT

MLMAWCRGPVLLCLRQGLGTNSFLHGLGQEPFEGARSLCCRSSPRDLRDGEREHEAAQRKAPGAESCPSLPLSIS DIGTGCLSSLENLRLPTLREESSPRELEDSSGDQGRCGPTHQGSEDPSMLSQAQSAIEVEERHVSPSCSTSRERPFQAGELILAETGEGETKFKKLFRLNNFGLLNSNWGAVPFGKIVGKFPGQILRSSFGKQYMLRRPALEDYVVLMKRGTAITFPKDINMILSMMDINPGDTVLEAGSGSGGMSLFLSKAVGSQGRVISFEVRKDHHDLAKKNYKHWRDSWKLSHVEEWPDNVDFIHKDISGATEDIKSLTFDAVALDMLNPHVTLPVFYPHLKHGGVCAVYVVNITQVIELLDGIRTCELALSCEKISEVIVRDWLVCLAKQKNGILAQKVESKINTDVQLDSQEKIGVKGELFQEDDHEESHSDFPYGSFPYVARPVHWQPGHTAFLVKLRKVKPQLN

<u>ATG</u>CAACAAGCTTCCTACCCCCAACCCGGCAGACAAAGCCCCGGCAGCAGGGCCGGCACTTCCGAGCCTCCGGA $\tt CTCGGGACGCCGCTCTTACCCTGGCCTCATCCAGAGTGACGCCGGCCACCGCTTCCCCCGGCTTTGGCGGC$ ${\tt AGGCTCTGCTCCGGCCCCAGGCCCAGGCCCGGGACCAGGAGAGCTTTGGACCCGAGAAGGCGGAGAGAGCTCTTCCG}$ GCCGCTGCCCCCGGCGCGCGCGTCAGCGCTCGGCGGCGGGGAGCGACGCTCTAGGCTGTCAGCTCGGTGG GCAGGGGACGGCCGAAGGCGCGGGGTGGAAGGGGAGCGGAGGAGCGAAGGCGCGAGGAGCTGACTGGGAATCCC CAAGCTACCCGAGGCAAGACACTGAACTTGAGTCGCACTTTTCATGCCTGTAGAAATGAGAATGACAGCTGTGAT AAAAAAAAATTCATCTGGGCGGTATCTGGAACTTGGGCGTTCCGAAACTTACAGTTATGCGCAACACAATGTTT CTATTTCAAAGGCGAACGCTGCACGATCGCAGTCCAGTGATACAAATAATAAAAGAGTTTATTACTTGTCAGCA ATGATGAATGTTCGTGTGGCATCCAGCGTTGAGTTCCTATTCTTACTTGGAACTCATTGGTCCCTGTGTCTGGGG CCAGCACTGATGGACACAACTAAGTTTGCACTCGTCTTCCCTCTCATGTATCATACCTGGAATGGGATCCAACAC TTGATGTGGGACCTAGGAAAAGGCCTGAAGATTCCCCAGCTATACCAGTCTGGAGTGGTTGTCCTGGTTCTTACT GTGTTATTTGTAGGGCTGGCAGCTGTGTGA

MQQASYPQPGQTKPRQQGRHFRASGLGTPRSYPGLIQSDAGATASPGFGGGAAGGAGLGGAGPRGDEMAAASGRP RLCSGPRPRPGTRRLGPEKAERALPGVHHGPARGTESTPRPGEPSKAGPPAAAPPPARRQRSAAGERRSRLSARW FPALPDRRAGATRKARLIRTSSGVELGLKPSCPARPECPRPHRHPRGLDGAGDGRRRRGVEGERRRREELTGNP QATRGKTLNLSRTFHACRNENDSCDKKKIHLGGIWNLGVPKLTVMRNTMFLFSKANAARSQSSDTNNKRVYYLSA MMNVRVASSVEFLFLLGTHWSLCLGPALMDTTKFALVFPLMYHTWNGIQHLMWDLGKGLKIPQLYQSGVVVLVLT VLFVGLAAV

726/6881 FIGURE 678A

ACAGAGAGATTGGTGTTTTTGTGAGGCAGTGAGACCTAAGGTAACCTTTATCAAAAGG<u>ATG</u>GAGTTGGGAAAAGG AAAACTACTCAGGACTGGACTGGATGCGTTGCATCAAGCAGTGCATCCGATCCATGGCCTTGCCTGGACCGATGG GAATCAAGTTGTCCTAACTGATTTGCGGCTTCACAGTGGAGAGGTCAAGTTTTGGGACACTCCAAAGTCATTGGACA GTTTGAATGTGTCTGGGGTTGTCCTGGGCCCCACCTGTTGCAGATGATACACCTGTTCTACTCGCTGTCCAGCA TGAGAAGCATGTCACTGTGTGGCAGCTGTGTCCCAGCCCTATGGAGTCAAGCAAATGGCTGACGTCTCAGACTTG GACTGCTCAGGATGTCTCCATTTTCCCTAATGTTCACTCTGATGATTCCCAGGTAAAGGCAGACATCAACACCCA GGGCCGCATTCACTGTGCATGTTGGACCCAGGATGGCCTGAGGCTGGTGGTGGCAGTAGGCAGCAGCCTGCATTC TTATATTTGGGACAGCGCTCAGAAGACTCTTCACAGGTGCTCCTCCTGCTGGTGTTTGATGTGGACAGCCACGT $\tt CTGCTCCATCACAGCAACTGTGGACTCACAGGTTGCTATAGCTACTGAGCTTCCATTGGATAAGATCTGTGGCTT$ AAATGCATCTGAAACCTTTAATATCCCACCTAACAGTAAAGACATGACTCCGTATGCTTTACCAGTTATTGGTGA AGTACGCTCTATGGATAAAGAGGCAACTGATTCTGAAACAAATTCTGAAGTATCAGTTTCTTCTTCCTATTTAGA ACCTCTGGATCTAACTCACATACATTTCAATCAACATAAGTCTGAGGGTAATTCTCTTATTTGTCTAAGAAAAAA GGACTACTTGACAGGAACTGGCCAAGATTCTTCACATTTGGTCCTTGTGACCTTTAAGAAGGCAGTTACCATGAC GAGAAAAGTCACTATTCCAGGCATTCTGGTTCCTGATCTGATAGCATTTAATCTTAAAGCCCACGTAGTGGCAGT GGCTTCCAACACTTGTAATATATTTTGATCTACTCTGTCATTCCATCTTCAGTCCCAAACATCCAGCAAATTCG ATTAGAGAACACTGAAAGACCAAAAGGGATATGTTTCTTGACAGACCAACTATTACTAATTTTGGTAGGAAAACA AAAACTCACTGATACAACATTTCTTCCTTCTTCAAAGTCTGATCAGTATGCCATTAGCTTGATTGTTAGAGAAAT TAAAGCAAATAGAAAAAGTTAATTGAAAGTCTTTCCCCAGATTTTTGTCACCAAAACAAAGGGCTGTTGCTGAC AGTTAATACCAGTAGTCAGAATGGAAGGCCTGGAAGAACACTTATTAAAGAAATCCAGAGTCCTCTGTCTAGTAT GCTGTCTAAGGAGGTGGAAATTTTATCTAGGAACCTGGTTGAAATGCAACGGTGTCTTTCTGAACTTACAAACCG TCTGCATAATGGGAAGAAATCCTCTTCAGTGTATCCACTCTCTCAAGATCTTCCTTATGTTCACATCATTTACCA GAAACCTTATTATCTAGGTCCTGTTGTTGAAAAAAAGAGCGGTGCTTCTCTGTGATGGTAAACTAAGGCTCAGTAC AGTTCAGCAGACTTTTGGCCTTTCTCTCATTGAAATGCTACATGATTCCCACTGGATTCTTCTCTCTGCTGACAG TGAGGGCTTTATCCCGTTAACCTTCACAGCCACACAGGAAATAATCATAAGAGATGGCAGCCTGTCCAGGTCAGA TGTCTTCAGAGACTCTTTTTCTCACAGTCCAGGTGCTGTTTCTTCTTCTTAAAGTCTTTACAGGCCTTGCTGCCCC TCTTCAGATGAGACCATTACAAACAAGGCCTGCTTGACACTGGACACTCGCCAATGAGACTCCCACTGCACTCAG ${\tt GCGAAGCGCTTGCCATGGTCGGCTCTCCTGGTTTCCCCCTGATGTCAGGCTGAGGCTCGCTGTTTAGCA}$ GAGCTCAGTCTTTATTAGATGGCTCCGAAAGTGGTGTTTTATGTATTCATGACTGTGTGGTTTTGACTAAGGGCAG GTCCAAAGCTGCATTGAAGCTGTCTTAGGAGCACTTAAAAGATACCTTGGCATTGTTATAGGTCTTTTTCTTGGC TTCAAGAGGAGGTTGAGGAGTCTGCTGGGGGGCATGTGCTCTAGCATATTAACCTCAAACCAGCAAGAATTAGCA GAGCTCCAAGGAGGACCAGAGACCCACTGGCTTCTGCTCTCAGGAACAGGAAGTGGCTCTGATGTTGCCTGGACC TCCCAGAATTTAAACCAAACCCTCTTGCTTCCTTAACAAATTCTGGCTGACGAAGGTCCAGGTACTCTTAAAAAC TGGCCCTGGGAAAATTTTGAATGAAATTTCAAGGGAATTTGTCCCCTCTGGGTTCCACTTGAGGTTGTGCCGATG CTGCTACCACACTGTCGAGCCCAGGTAAGTCCTACTGCAGGATTTTGTGCTGTGGCCACTCATGAGTGTCCCTGA AATAACTTTTTTTTTTTAAATCCAGTTTTGGGATCACGCAACTTTCCTATTTTTCTCCCAGTAGTCAGCTCCC TTAGTTAACTTGTCACTTTAATTTGATATTTTTATTTTCTCTCCTTTTAAGTCTTAGAGACCAGCAGAAATCTG TGAGAGAAAGTATTTCAGGAAGTTAGAAATTCAACCGAATCTGAGGTAGTCCTAAAAAGTGCCATTTTGTTTCAC TTATGGGCTAAAGTACCAGCTTAGTCAGGTAAGAGCCCTGACCCACTTCAGATGGTAACACCACTTCTCACTGCC ACTATTTTGTGCCCTTGGGGACTCCTGTCTGTCTGTTACAGTTTACCAAGATGGAGCTGGGTTAGGAAAGAAGTG ${\tt AGGGCCCATTTTGTGGTTCAAGTGCACTAGACAGCTGCTGGGGTAGGAAGCACAGGCAATGTCTGCAATCAGCTG}$

727/6881 FIGURE 678B

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728/6881 FIGURE 6**79**

MELGKGKLLRTGLNALHQAVHPIHGLAWTDGNQVVLTDLRLHSGEVKFGDSKVIGQFECVCGLSWAPPVADDTPV
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DKICGLNASETFNIPPNSKDMTPYALPVIGEVRSMDKEATDSETNSEVSVSSSYLEPLDLTHIHFNQHKSEGNSL
ICLRKKDYLTGTGQDSSHLVLVTFKKAVTMTRKVTIPGILVPDLIAFNLKAHVVAVASNTCNIILIYSVIPSSVP
NIQQIRLENTERPKGICFLTDQLLLILVGKQKLTDTTFLPSSKSDQYAISLIVREIMLEEEPSITSGESQTTYST
FSAPLNKANRKKLIESLSPDFCHQNKGLLLTVNTSSQNGRPGRTLIKEIQSPLSSICDGSIALDAEPVTQPASLP
RHSSTPDHTSTLEPPRLPQRKNLQSEKETYQLSKEVEILSRNLVEMQRCLSELTNRLHNGKKSSSVYPLSQDLPY
VHIIYQKPYYLGPVVEKRAVLLCDGKLRLSTVQQTFGLSLIEMLHDSHWILLSADSEGFIPLTFTATQEIIRDG
SLSRSDVFRDSFSHSPGAVSSLKVFTGLAAPSLDTTGCCNHVDGMA

TTCTCTTAGCAGCACCCAGCTTGCCCACCCATGCTCAAGATGGGGGGGATGCCAGCCTGTTACATAAATGTGCCA GTTTCCTCTCTTGAAGTGAGAGCTAGAATCGCACTTTCTGTCAAGCTGAGAGAAAGACTCTTTTCCAGAGGCTA AGGGTGGTTCTGCTTAGCCCCACCCCTCCGGCTACCCCAGGTCCAGCCGTCCATTCCGGTGGAGGCAGAGGCAGT CCTGGGGCTCTGGGGCTTTGTCACCGGGACCCGCAGGACCAGAACCACTCGGCGCCGCCTGGTGCATG GGAGGGGAGCCGGGCCAGGAACATATGTTAGCCGTGCACTTTGACAAGCCGGGAGGACCGGAAAACCTCTACGT GAAGGAGGTGGCCAAGCCGAGCCCGGGGGAGGGTGAAGTCCTCCTGAAGGTGGCGGCCAGCGCCCTGAACCGGGC GGACTTAATGCAGAGACAAGGCCAGTATGACCCACCTCCAGGAGCCAGCAACATTTTGGGACTTGAGGCATCTGG ACATGTGGCAGAGCTGGGGCCTGGCTGCCAGGGACACTGGAAGATCGGGGACACAGCCATGGCTCTGCTCCCCGG TGGGGGCCAGGCTCAGTACGTCACTGTCCCCGAAGGGCTCCTCATGCCTATCCCAGAGGGATTGACCCTGACCCA GGCTGCAGCCATCCCAGAGGCCTGGCTCACCGCCTTCCAGCTGTTACATCTTGTGGGAAATGTTCAGGCTGGAGA CTATGTGCTAATCCATGCAGGACTGAGTGGTGTGGGCACAGCTGCTATCCAACTCACCCGGATGGCTGGAGCTAT TCCTCTGGTCACAGCTGGCTCCCAGAAGAAGCTTCAAATGGCAGAAAAGCTTGGAGCAGCTGCTGGATTCAATTA CAAAAAAGAGGATTTCTCTGAAGCAACGCTGAAATTCACCAAAGGTGCTGGAGTTAATCTTATTCTAGACTGCAT AGGCGGATCCTACTGGGAGAAGAACGTCAACTGCCTGGCTCTTGATGGTCGATGGGTTCTCTATGGTCTGATGGG AGGAGGTGACATCAATGGGCCCCTGTTTTCAAAGCTACTTTTTAAGCGAGGAAGTCTGATCACCAGTTTGCTGAG GTCTAGGGACAATAAGTACAAGCAAATGCTGGTGAATGCTTTCACGGAGCAAATTCTGCCTCACTTCTCCACGGA GGGCCCCAACGTCTGCCGGTTCTGGACAGAATCTACCCAGTGACCGAAATCCAGGAGGCCCATAAGTACAT GGAGGCCAACAAGAACATAGGCAAGATCGTCCTGGAACTGCCCCAGTGAAGGAGGATGGGGCAGGACAGGACGCG GCCACCCCAGGCCTTTCCAGAGCAAACCTGGAGAAGATTCACAATAGACAGGCCAAGAAACCCGGTGCTTCCTCC AGAGCCGTTTAAAGCTGATATGAGGAAATAAAGAGTGAACTGG

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GGCACGAGGGTCCCGTTACCGCCTCCTGCTCCTGCCGCGCACCCCGGGGCTTCGGCTCCGGCACGGGTCGCG CCCAGCTTTCCTGCACCTGAGGCCGCCGGCCAGCCGCCCATGGTGCCTACCTCTCCCAGCCCAACACGGTGA AGTGCTCCGGGGACGGGGTCGGCGCCCCGCGCCTGCCGCTGCCCTACGGCTTCTCCGCCATGCAAGGCTGGCGCG TCTCCATGGAGGATGCTCACAACTGTATTCCTGAGCTGGACAGTGAGACAGCCATGTTTTCTGTCTACGATGGAC ATGGAGGGGAGGAAGTTGCCTTGTACTGTGCCAAATATCTTCCTGATATCATCAAAGATCAGAAGGCCTACAAGG AAGGCAAGCTACAGAAGGCTTTAGAAGATGCCTTCTTGGCTATTGACGCCAAATTGACCACTGAAGAAGTCATTA AAGAGCTGGCACAGATTGCAGGGCGACCCACTGAGGATGAAGATGAAAAAGAAAAGTAGCTGATGAAGATGATG TGGACAATGAGGAGGCTGCACTGCATGAAGAGGCTACCATGACTATTGAAGAGCTGCTGACACGCTACGGGC AGAACTGTCACAAGGGCCCTCCCCACAGCAAATCTGGAGGTGGGACAGGCGAGGAACCAGGGTCCCAGGGCCTCA ATGGGGAGGCAGGACCTGAGGACTCAACTAGGGAAACTCCTTCACAAGAAAATGGCCCCACAGCCAAGGCCTACA CTGGGCCTTCCTGCTCTTCAGCCTCTGACAAGCTGCCTCGAGTTGCTAAGTCCAAGTTCTTTGAGGACAGTGAGG ATGAGTCAGATGAGGCGGAGGAAGAAGAAGAAGAAGAAGAGAATGCAGCGAGGAAGAGAGATGGCTACAGCAGTG TGATGGTGCCAGGGATGGAAGGCAAAGAGGGGCCTGGCTCTGACAGTGGTACAACAGCGGTGGTGGCCCTGATAC GAGGGAAGCAGTTGATTGTAGCCAACGCAGGAGACTCTCGCTGTGTGGTATCTGAGGCTGGCAAAGCTTTAGACA TGTCCTATGATCACAAACCAGAGGATGAAGTAGAACTAGCACGCATCAAGAATGCTGGTGGCAAGGTCACCATGG ATGGGCGAGTCAACGGGGGCCTCAACCTCTCCAGAGCCATTGGGGACCACTTCTATAAGAGAAACAAGAACCTGC CACCTGAGGAACAGATGATTTCAGCCCTTCCTGACATCAAGGTGCTGACTCTCACTGACGACCATGAATTCATGG AGCGTGATGAAAATGGGGAGCTTCGGTTATTGTCATCCATTGTGGAAGAGCTGCTGGATCAGTGCCTGGCACCAG ACACTTCTGGGGATGGTACAGGGTGTGACAACATGACCTGCATCATCTTTGCTTCAAGCCCCGAAACACAGCAG AGCTCCAGCCAGAGAGTGGCAAGCGAAAACTAGAGGAGGTGCTCTCTACTGAGGGGGGCTGAAGAAAATGGCAACA TCCGGACCTGAGACTTGTCTTTTTCCTTTAGCCTTAGCAGTGGGTATGAGGTGTGCAGGGGGAGCTGGG TGGCTTCACTCCGCCCATTCCAAAGAGGGCTCTCCCTCCACACTGCAGCCGGGAGCCTCTGCTGTCCTTCCCAGC CGCCTCTGCTCCTCGGGCTCATCACCGGTTCTGTGCCTGTGCTCTGTTGTGTTGGAGGGAAGGACTGGCGGTTCT

MGAYLSQPNTVKCSGDGVGAPRLPLPYGFSAMQGWRVSMEDAHNCIPELDSETAMFSVYDGHGGEEVALYCAKYL PDIIKDQKAYKEGKLQKALEDAFLAIDAKLTTEEVIKELAQIAGRPTEDEDEKEKVADEDDVDNEEAALLHEEAT MTIEELLTRYGQNCHKGPPHSKSGGGTGEEPGSQGLNGEAGPEDSTRETPSQENGPTAKAYTGFSSNSERGTEAG QVGEPGIPTGEAGPSCSSASDKLPRVAKSKFFEDSEDESDEAEEEEEDSEECSEEEDGYSSEEAENEEDEDDTEE AEEDDEEEEEEMMVPGMEGKEEPGSDSGTTAVVALIRGKQLIVANAGDSRCVVSEAGKALDMSYDHKPEDEVELA RIKNAGGKVTMDGRVNGGLNLSRAIGDHFYKRNKNLPPEEQMISALPDIKVLTLTDDHEFMVIACDGIWNVMSSQ EVVDFIQSKISQRDENGELRLLSSIVEELLDQCLAPDTSGDGTGCDNMTCIIICFKPRNTAELQPESGKRKLEEV LSTEGAEENGNSDKKKKAKRD

CCCTATCCGGACAGGTGGCTCTTGCCCTTTAGACTACAGTTCCCAGCATGCCCAGGCGATTGCGTCCCAGAACCG ACGTCCCACCGCCTTCCCACATCGGATCGCAGGGCTCCCAAAATGGCGAGTGAGGCTGCGGGGGACTCGCTGAGCA GCGGAGGGGGAGCGTGCAGAGCCGCTGCGGCCCTCACAGTCCGGAGCCCGGCCGTGCCGTAGGGAACATG

CACTTTCCATTCCCGAAACCGAGTCCCGCAGCGGGGGACAGCGGCGGCTCCGCCTACGTGGCCTATAACATTCAC GGGGCCAATGTGCTTCCTGCATTCCCCCCAAAGAAGCTTTTCTCTCTGACTCCTGCTGAGGTAGAACAGAGGAGA GAGCAGTTAGAGAAGTACATGCAAGCTGTTCGGCAAGACCCATTGCTTGGGAGCAGCGAGACTTTCAACAGTTTC CTGCGTCGGGCACAACAGGAGACACAGCAGGTCCCCACAGAGGAAGTGTCCTTGGAAGTGCTGCTCAGCAACGGG CAGAAAGTTCTGGTCAACGTGCTAACTTCAGATCAGACTGAGGATGTCCTGGAGGCTGTAGCTGCAAAGCTGGAT CTTCCAGATGACTTGATTGGATACTTTAGTCTATTCTTAGTTCGAGAAAAAGAGGATGGAGCCTTTTCTTTTGTA CGGAAGTTGCAAGAGTTTGAGCTGCCTTATGTGTCTGTCACCAGCCTTCGGAGTCAAGAGTATAAGATTGTGCTA AGGAAGAGTTATTGGGACTCTGCCTATGATGACGATGTCATGGAGAACCGGGTTGGCCTGAACCTGCTTTATGCT CAGACGGTATCAGATATTGAGCGTGGGTGGATCTTGGTCACCAAGGAACAGCACCGGCAACTCAAATCTCTGCAA GAGAAAGTCTCCAAGAAGGAGTTCCTGAGACTGGCCCAGACGCTGCGGCACTATGGCTACTTGCGCTTTGATGCC TGTGTGGCTGACTTCCCAGAAAAGGACTGTCCTGTGGTGGTGAGCGCĠGGCAACAGTGAGCTCAGCCTGCAGCTC CGCCTGCCTGGCCAGCAACTCCGAGAAGGCTCCTTCCGGGTCACCCGCATGCGATGCTGGCGGGTCACCTCCTCT GTACCATTGCCCAGTGGAAGCACGAGCAGCCCAGGCCGGGGCCGGGGTGAGGTGCGCCTGGAACTGGCTTTTGAA TACCTCATGAGCAAGGACCGGCTACAGTGGGTCACCATCACTAGCCCCCAGGCTATCATGATGAGCATCTGCTTG CAGTCCATGGTTGATGACTGATGGTGAAGAAATCTGGCGGCAGTATCAGGAAGATGCTGCGCCGGCGGGTGGGG GGTACTCTGAGACGCTCAGACAGCCAGCAAGCAGTGAAGTCCCCACCACTGCTTGAGTCACCTGATGCCACCCGG GAGTCTATGGTCAAACTCTCAAGTAAGCTGAGTGCCGTGAGCTTGCGGGGAATTGGCAGTCCCAGCACAGATGCC AGTGCCAGTGATGTCCACGGCAATTTCGCCTTCGAGGGCATTGGAGATGAGGATCTG<u>TAA</u>TCTCCACTGCTTGGA TGTCTGCCCTCTACCCCAGAGGAATTTACAGAAACTTGCCCTGTGCCTGTGTCCCCCATGCTAGGGGCGGAGGGG TCTTTTCCTTCTTCTTCCTACCCTTTTCTCTTGGCCAGGGGCCTCGTATCCTACCTTTCCTTGTCCCCT GGGCTGGCTGCACAGAGGATTGCCCCTTCTCTTTTCAGAGCTGGCCCTCGATGCCAAATTAGCATTTAGTATTTT GCACAAAGTCTAAGGGACCATGGCTGCCTTGGGGAGGAACCATAGCTCCCTCTGGGCCGCTTCTGGCCTCT TGGAGCCATGGGCCAAAGGCCAAGGGGATGGGCAGAGGTCTGTGTTTGGTCTGGCCCAGTTCCCCATCATTAAAC TCAGCCTGACTGCCT

MHFSIPETESRSGDSGGSAYVAYNIHVNGVLHCRVRYSQLLGLHEQLRKEYGANVLPAFPPKKLFSLTPAEVEQR REQLEKYMQAVRQDPLLGSSETFNSFLRRAQQETQQVPTEEVSLEVLLSNGQKVLVNVLTSDQTEDVLEAVAAKL DLPDDLIGYFSLFLVREKEDGAFSFVRKLQEFELPYVSVTSLRSQEYKIVLRKSYWDSAYDDDVMENRVGLNLLY AQTVSDIERGWILVTKEQHRQLKSLQEKVSKKEFLRLAQTLRHYGYLRFDACVADFPEKDCPVVVSAGNSELSLQ LRLPGQQLREGSFRVTRMRCWRVTSSVPLPSGSTSSPGRGRGEVRLELAFEYLMSKDRLQWVTITSPQAIMMSIC LQSMVDELMVKKSGGSIRKMLRRRVGGTLRRSDSQQAVKSPPLLESPDATRESMVKLSSKLSAVSLRGIGSPSTD ASASDVHGNFAFEGIGDEDL

GATGGCTGCTGTGGCCGTGGCTGTTCGCGAGGACTCGGGATCCGGGATGAAGGCGGAGCTTCCCCCTGGGCCTGG GAAGGAAGAAAAGGGGGCAGAACCAGAGACTGGCTCTGCTGTATCTGCAGCCCAATGTCAAGTAGGCCCAACCAG AGAACTGCCAGAATCGGGCATTCAGTTGGGCACTCCTCGGGAGAAAGTTCCAGCTGGTCGGAGTAAGGCCGAACT TCGGGCTGAGCGTCGAGCCAAGCAGGAGGCCGAGCGGGCCCTGAAACAGGCAAGAAAAGGGGAACAAGGAGGACC ACCTCCTAAGGCCAGCCCCAGCACAGCTGGAGAAACCCCCTCAGGAGTGAAGCGTCTCCCTGAGTACCCTCAGGT TGATGACCTACTTCTGAGAAGGCTTGTTAAAAAAACCAGAGCGTCAACAGGTTCCTACACGAAAGGATTATGGATC CAAAGTCAGTCTCTCTCTCACCTACCCCAGTACAGCAGACAAAACTCTCTGACCCAGTTTATGAGCATCCCATC CTCTGTGATCCACCCAGCCATGGTGCGACTCGGCCTGCAGTACTCCCAGGGCCTGGTCAGTGGCTCCAATGCCCG GTGTATTGCCCTGCTTCGTGCCTTGCAGCAGGTGATTCAGGATTACACAACACCGCCTAATGAAGAACTCTCCAG GGATCTAGTGAATAAACTAAAACCCTACATGAGCTTCCTGACTCAGTGCCGTCCCCTGTCAGCGAGCATGCACAA CGCCATCAAGTTCCTTAACAAGGAAATCACCAGTGTGGGCAGTTCCAAGCGGGAAGAGGGGCCAAGTCAGAACT TCGAGCAGCCATTGATCGGTATGTGCAAGAGAAGATTGTGCTAGCAGCTCAGGCAATTTCACGCTTTGCTTACCA GAAGATCAGTAATGGAGATGTGATCCTGGTATATGGATGCTCATCTCTGGTATCACGAATTCTTCAGGAGGCTTG TCTAGTCCATGCTGGTGTCCCAGCCTCCTACCTGCTGATTCCTGCAGCCTCCTATGTGCTCCCAGAGGTTTCCAA GGTGCTATTGGGAGCTCATGCACTCTTGGCCAACGGGTCTGTGATGTCACGGGTAGGGACAGCACAGTTAGCCCT GGTGGCTCGAGCCCATAATGTACCAGTGCTGGTTTGCTGTGAAACATACAAGTTCTGTGAGCGTGTGCAGACTGA TGCCTTTGTCTCTAATGAGCTAGATGACCCTGATGATCTGCAATGTAAGCGGGGAGAACATGTTGCGCTGGCTAA CTGGCAGAACCACGCATCCCTACGGTTGTTGAATCTAGTCTATGATGTGACTCCCCCAGAGCTTGTGGATCTGGT GATCACGGAGCTGGGGATGATCCCTTGCAGTTCTGTACCTGTTGTTCTACGAGTCAAGAGCAGTGACCAG<u>TGA</u>CG AAAAAAAAAC

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CIALLRALQQVIQDYTTPPNEELSRDLVNKLKPYMSFLTQCRPLSASMHNAIKFLNKEITSVGSSKREEEAKSEL
RAAIDRYVQEKIVLAAQAISRFAYQKISNGDVILVYGCSSLVSRILQEAWTEGRRFRVVVVDSRPWLEGRHTLRS
LVHAGVPASYLLIPAASYVLPEVSKVLLGAHALLANGSVMSRVGTAQLALVARAHNVPVLVCCETYKFCERVQTD
AFVSNELDDPDDLQCKRGEHVALANWQNHASLRLLNLVYDVTPPELVDLVITELGMIPCSSVPVVLRVKSSDQ

AGGACTTTGGCGAGGGGCAGCCATTTTGGGGGGTGCTGATGGATACCTGCGGGGTCGGCTATGTTGCCCTGGGG GAGGCCGGCCCCGTGGGGAACATGACTGTGGTAGACTCTCCTGGACAAGAGGTGCTAAATCAGCTTGATGTCAAG ATGTCAAAGGTCTCAAAGCCTAGGGCCTCAAAGCCTGGCCGGAAGAGAGGTGGTAGGACACGAAAAAGGCCCCAAA AGGCCCCAACAGCCTAATCCTCCATCAGCCCCACTGGTTCCTGGTCTCTTAGATCAATCCAACCCTCTGTCCACC CCCATGCCTAAGAAACGAGGTCGAAAGTCCAAGGCAGAGCTGCTGCTGCAAAGTTGTCAAAAAGACCTAGATCGG CCAGAATCTCAATCTCCAAAGAGGCCCCCTGAGGACTTTGAGACCCCTTCTGGGGAACGACCCCGCCGAAGGGCT GAGGTGGATGGTGCTCCACGGGATGAAGACTTTTTTCTCCAGGTTGAGGCTGAAGATGTGGAAGAAAGTGAGGGC CCAAGTGAGAGCTCATCTGAACCTGAGCCTGTAGTGCCCCGAAGCACCCCACGAGGATCTACTTCAGGGAAACAG AAACCACACTGCCGAGGAATGGCTCCCAATGGCTTACCAAATCATATCATGGCTCCTGTTTGGAAGTGCCTCCAT CTCACCAAGGACTTCCGAGAGCAGAAACATTCATACTGGGAGTTTGCTGAGTGGATTCCTTTAGCCTGGAAGTGG CACTTGTTATCTGAGCTTGAGGCCGCTCCCTACCTGCCCCAGGAGGAGAAGTCTCCATTGTTTTCTGTACAACGT GAAGGGCTACCTGAAGATGGCACCCTCTACCGAATAAACAGATTTAGCTCGATCACAGCACATCCAGAGCGCTGG GATGTGTCCTTCTCACGGGGGGACCGCTCTGGGCTCTGGACTGGTGCCCAGTGCCAGAGGGGGCAGGAGCCTCG CAATATGTGGCTCTTTTCTCCAGCCCTGACATGAATGAGACACCCCACTGAGCCAGCTTCATTCGGGTCCTGGG CTGCTCCAGCTCTGGGGCCTTGGGACCTTGCAGCAAGAAAGCTGTCCTGGCAACAGGGCCCACTTTGTCTATGGG ATTGCTTGTGACAACGGCTGCATCTGGGACCTCAAGTTCTGCCCCAGTGGAGCATGGGAACTTCCAGGCACCCCT CGGAAGGCTCCTCTCCTGCCCCGGTTGGGTCTCTTGGCTCTGGCCTGCTCAGACGGGAAAGTACTGCTATTCAGT CTACCCCATCCGGAGGCCCTGCTGGCTCAGCAACCCCCAGATGCAGTGAAGCCTGCCATATATAAGGTACAATGT GTGGCAACTCTGCAGGTGGGGTCTATGCAAGCTACAGACCCCTCTGAGTGTGTCAGTGCCTTAGCCTGGCCTGG ATGCCTACCAGGCCCCACCAACACCTAGCTGCTGGATATTATAATGGCATGGTGGTTTTCTGGAACCTTCCCACT AACTCACCCTGCAGCGGATACGGCTCTCTGATGGCTCCTTAAAGCTCTACCCCTTCCAGTGTTTCCTAGCCCAT GACCAGGCTGTGCGTACCCTTCAATGGTGCAAAGCTAACAGCCATTTCCTTGTCTCTGCGGGGAGTGACCGGAAA ATCAAATTCTGGGACCTTCGACGTCCTTACGAACCCATAAACTCTATCAAGCGCTTCTTGAGTACAGAACTGGCC TGGCTGCTTCCCTACAATGGTGTCACTGTGGCTCAGGACAACTGCTATGCCTCTTATGGACTCTGTGGGATTCAT TATATTGACGCTGGTTACCTTGGTTTCAAGGCCTACTTCACTGCTCCTCGAAAAGGCACCGTTTGGAGTCTTTCA GGATCCGACTGGCTTGGGACAATAGCTGCAGGAGATATATCCGGGGGAGCTCATTGCTGCTATATTACCAGATATG CAGGACAGTCCTGAAGGTCCAGACCATTCTTCTGCTTCATCTGGGGTCCCCAACCCTCCCAAGGCTCGAACTTAC ACTGAAACTGTCAACCATCACTACTTGCTCTTTCAAGACACAGATTTGGGTTCATTCCATGATCTGCTCCGTAGA GAACCAATGCTGCGCATGCAGGAGGGGAGAGGGGCATTCTCAACTCTGCCTGGACAGGCTGCAGCTGGAGGCTATT ATCCATTTTGTCCGTGGACTCGCCTCCCCACTGGGCCACCGTATGCAGCTTGAAAGCCGAGCCCACTTCAATGCT ${\tt ATGTTCCAACCATCCTCCCCACTAGACGGCCTGGCTTCTCCCAACCAGCCATCGCCTTCTGCCCACTCCC} \underline{{\tt TAG}}$

MDTCGVGYVALGEAGPVGNMTVVDSPGQEVLNQLDVKTSSEMTSAEASVEMSLPTPLPGFEDSPDQRRLPPEQES
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KIRQPAACPGGEEVDGAPRDEDFFLQVEAEDVEESEGPSESSSEPEPVVPRSTPRGSTSGKQKPHCRGMAPNGLP
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SCPGNRAHFVYGIACDNGCIWDLKFCPSGAWELPGTPRKAPLLPRLGLLALACSDGKVLLFSLPHPEALLAQQPP
DAVKPAIYKVQCVATLQVGSMQATDPSECGQCLSLAWMPTRPHQHLAAGYYNGMVVFWNLPTNSPLQRIRLSDGS
LKLYPFQCFLAHDQAVRTLQWCKANSHFLVSAGSDRKIKFWDLRRPYEPINSIKRFLSTELAWLLPYNGVTVAQD
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AGCAGCTGGTGGAGAGGCGGGGTCTGCAGGAACACCAGAGAGGCCGGACTCTGACCATGGTGTCCCTGGGCTGTG
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CACTGAAGAAGATGTTGTTGGATCAGGGGGGGCTTTGCCCCGTGTTTTCTAGGCTGCTTTCTCCCACTGGTAGGGG
CACTTAATGGACTGTCAGCCCAGGACAACTGGGCCAAACTACAGCGGGATTATCCTGATGCCCTTATCACCAACT
ACTATCTATGGCCTGCTGTGCAGTTAGCCAACTTCTACCTGGTCCCCCTTCATTACAGGTTGGCCGTTGTCCAAT
GTGTTGCTGTTATCTGGAACTCCTACCTGTCCTGGAAGGCACACCTCCTCAAAGTGGGCATACCAGTTTCCACGGG
GTTGGGTTGCCGGTCAGACCTTGACCCTGGAACGGTCAGACACCTCCTCAAAGTGGGCATACCAGTTTCCACGGG
GTTGGGTTGCCGGTCAGAGCTTAAGAGGACTAGCACCCTCGCATACTCATCATCTATG
ACCTTATCAACTTTACACCCATATCCCAGCAAATGCCACTCCTCATAAAATATCTGTTGAACCTTCATA
ACCCTGCCTAGGCTTCTTGTAGCTCCAGCTCTTTAGAGACCCCTTTATATGGTGCCTCAGTAAATAT
GTTATTAAAATATGTAATCCGG

MALWRAYQRALAAHPWKVQVLTAGSLMGLGDIISQQLVERRGLQEHQRGRTLTMVSLGCGFVGPVVGGWYKVLDR FIPGTTKVDALKKMLLDQGGFAPCFLGCFLPLVGALNGLSAQDNWAKLQRDYPDALITNYYLWPAVQLANFYLVP LHYRLAVVQCVAVIWNSYLSWKAHRL

741/6881 FIGURE 692A

 $\texttt{CGCCCCGCCTCTGAGCTCCCTTCCC} \underline{\textbf{ATG}} \\ \texttt{CGCCCCTAGTGTTGGAGGACGGGTCGGTCCTGCGGGGCCAGCCCT}$ TTGGGGCCGCCGTGTCGACTGCCGGGGAAGTGGTGTTTCAAACCGGCATGGTCGGCTACCCCGAGGCCCTCACTG ATCCCTCCTACAAGGCACAGATCTTAGTGCTCACCTATCCTCTGATCGGCAACTATGGCATCCCCCAGATGAAA TGGATGAGTTCGGTCTCTGCAAGTGGTTTGAATCCTCGGGCATCCACGTAGCAGCACTGGTAGTGGGAGAGTGCT GTCCTACTCCCAGCCACTGGAGTGCCACCCGCACCCTGCATGAGTGGCTGCAGCAGCATGGCATCCCTGGCTTGC AAGGAGTAGACACTCGGGAGCTGACCAAGAAGTTGCGGGAACAGGGGTCTCTGCTGGGGAAGCTGGTCCAGAATG CACGGGTATTCAATACAGGGGGTGCCCCTCGGATCCTTGCTTTGGACTGTGGCCTCAAGTATAATCAGATCCGAT GCCTCTGCCAGCGTGGGGCTGAGGTCACTGTGGTACCCTGGGACCATGCACTAGACAGCCAAGAGTATGAGGGTC TCTTCTTAAGTAATGGGCCTGGTGACCCTGCCTCCTATCCCAGTGTCGTATCCACACTGAGCCGTGTTTTATCTG AGCCTAATCCCCGACCTGTCTTTGGGATCTGCCTGGGACACCAGCTATTGGCCTTAGCCATTGGGGCCAAGACTT ACAAGATGAGATATGGGAACCGAGGCCATAACCAGCCCTGCTTGTTGGTGGGCTCTGGGGCGCTGCTTTCTGACAT CCCAGAACCATGGGTTTGCTGTGGAGACAGACTCACTGCCAGCAGACTGGGCTCCTCTTCACCAACGCCAATG ATGGTTCCAATGAAGGCATTGTGCACAACAGCTTGCCTTTCTTCAGTGTCCAGTTTCACCCAGAGCACCAAGCTG GCCCTTCAGATATGGAACTGCTTTTCGATATCTTTCTGGAAACTGTGAAAGAGGCCACAGCTGGGAACCCTGGGG GCCAGACAGTTAGAGAGCGGCTGACTGAGCGCCTCTGTCCCCCTGGGATTCCCACTCCGGCTCTGGACTTCCAC CACCACGAAAGGTTCTGATCCTGGGCTCAGGGGGCCTCTCCATTGGCCAAGCTGGAGAATTTGACTACTCGGGCT CTCAGGCAATTAAGGCCCTGAAGGAGGAAAACATCCAGACGTTGCTGATCAACCCCAATATTGCCACAGTGCAGA CCTCCCAGGGGCTGGCCGACAAGGTCTATTTTCTTCCCATAACACCTCATTATGTAACCCAGGTGATACGTAATG AACGCCCCGATGGTGTTACTGACTTTTGGGGGCCCAGACTGCTCTGAACTGTGGTGGAGCTGACCAAGGCCG GGGTGCTGGCTCGGTATGGGGTCCGGGTCCTGGGCACACCAGTGGAGACCATTGAGCTGACCGAGGATCGACGGG TTGCCTCTAACAGGAGGAGCTCTCTGCTCTCGTGGCCCCAGCTTTTGCCCATACCAGCCAAGTGCTAGTAGACA AGTCTCTGAAGGGATGGAAGGAGTTGAGTACGAGGTGGTGAGAGACGCCTATGGCAACTGTGTCACGGTGTGTA ACATGGAGAACTTGGACCCACTGGGCATCCACACTGGTGAGTCCATAGTGGTGGCCCCTAGCCAGACACTGAATG ACAGGGAGTATCAGCTCCTGAGGCAGACAGCTATCAAGGTGACCCAGCACCTGGGAATTGTTGGGGAGTGCAATG TGCAGTATGCCTTGAACCCTGAGTCTGAGCAGTATTACATCATTGAAGTGAATGCCAGGCTCTCTCGCAGCTCTG CCCTGGCCAGTAAGGCCACAGGTTATCCACTGGCTTATGTGGCAGCCAAGCTAGCATTGGGCATCCCTTTGCCTG AGCTCAGGAACTCTGTGACAGGGGGTACAGCAGCCTTTGAACCCAGCGTGGATTATTGTGTGGTGAAGATTCCTC GATGGGACCTTAGCAAGTTCCTGCGAGTCAGCACAAAGATTGGGAGCTGCATGAAGAGCGTTGGTGAAGTCATGG GCATTGGCCGTTCATTTGAGGAGGCCTTCCAGAAGGCCCTGCGCATGGTGGATGAGAACTGTGTGGGCTTTGATC ACACAGTGAAACCAGTCAGCGATATGGAGTTGGAGACTCCAACAGATAAGCGGATTTTTGTGGTGGCAGCTGCTT TGTGGGCTGGTTATTCAGTGGACCGCCTGTATGAGCTCACACGCATCGACCGCTGGTTCCTGCACCGAATGAAGC GTATCATCGCACATGCCCAGCTGCTAGAACAACACCGTGGACAGCCTTTGCCGCCAGACCTGCTGCAACAGGCCA AGGAACTGGGGATCTGTCCAGCAGTGAAACAGATTGACACAGTTGCAGCTGAGTGGCCAGCCCAGACAAATTACC TATACCTAACGTATTGGGGCACCACCCATGACCTCACCTTTCGAACACCTCATGTCCTAGTCCTTGGCTCTGGCG TCTACCGTATTGGCTCTAGCGTTGAATTTGACTGGTGTGCTGTAGGCTGCATCCAGCAGCTCCGAAAGATGGGAT ATAAGACCATCATGGTGAACTATAACCCAGAGACAGTCAGCACCGACTATGACATGTGTGATCGACTCTACTTTG ATGAGATCTCTTTTGAGGTGGTGATGGACATCTATGAGCTCGAGAACCCTGAAGGTGTGATCCTATCCATGGGTG GACAGCTGCCCAACAACATGGCCATGGCGTTGCATCGGCAGCAGTGCCGGGTGCTGGGCACCTCCCCTGAAGCCA AGCTCAGTGACCTCGAGTCTGCTCGCCAATTCTGCCAGACCGTGGGGTACCCCTGTGTGGGGCCCCCCCTATG TGCTGAGCGGTGCTGCTATGAATGTGGCCTACACGGATGGAGACCTGGAGCGCTTCCTGAGCAGCAGCAGCCG TCTCCAAAGAGCATCCCGTGGTCATCTCCAAGTTCATCCAGGAGGCTAAGGAGATTGACGTGGATGCCGTGGCCT CTGATGGTGTGGCAGCCATCGCCATCTCTGAGCATGTGGAGAATGCAGGTGTGCATTCAGGTGATGCGACGC TGGTGACCCCCCACAAGATATCACTGCCAAAACCCTGGAGCGGATCAAAGCCATTGTGCATGCTGTGGGCCAGG

PCT/US2003/028547

742/6881 FIGURE 692B

AGCTACAGGTCACAGGACCCTTCAATCTGCAGCTCATTGCCAAGGATGACCAGCTGAAAGTTATTGAATGCAACG TACGTGTCTCTCGCTCCCTTCGTTTCCAAGACACTGGGTGTGGACCTAGTAGCCTTGGCCACGCGGGTCA TCATGGGGGAAGAAGTGGAACCTGTGGGGCTAATGACTGGTTCTGGAGTCGTGGGAGTAAAGGTGCCTCAGTTCT CCTTCTCCCGCTTGGCGGGTGCTGACGTGTTTGGGTGTGGAAATGACCAGTACTGGGGAGGTGGCCGGCTTTG GGGAGAGCCGCTGTGAGGCATACCTCAAGGCCATGCTAAGCACTGGCTTTAAGATCCCCAAGAAGAATATCCTGC TGACCATTGGCAGCTATAAGAACAAAAGCGAGCTGCTCCCAACTGTGCGGCTACTGGAGAGCCTGGGCTACAGCC TCTATGCCAGTCTCGGCACAGCTGACTTCTACACTGAGCATGGCGTCAAGGTAACAGCTGTGGACTGGCACTTTG TGATTAACCTGTCAATGCGTGGAGCTGGGGGCCGGCGTCTCTCTTCCTTTGTCACCAAGGGCTACCGCACCCGAC GCTTGGCCGCTGACTTCTCCGTGCCCCTAATCATCGATATCAAGTGCACCAAACTCTTTGTGGAGGCCCTAGGCC AGATCGGGCCAGCCCCTCCTTTGAAGGTGCATGTTGACTGTATGACCTCCCAAAAGCTTGTGCGACTGCCGGGAT TGATTGATGTCCATGTGCACCTGCGGGAACCAGGTGGGACACATAAGGAGGACTTTGCTTCAGGCACAGCCGCTG CCCTGGCTGGGGGTATCACCATGGTGTGCCATGCCTAATACCCGGCCCCCATCATTGACGCCCCTGCTCTGG CCCTGGCCCAGAAGCTGGCAGAGGCTGGCGCCCGGTGCGACTTTGCGCTATTCCTTGGGGCCTCGTCTGAAAATG CAGGAACCTTGGGCACCGTGGCCGGGTCTGCAGCCGGGCTGAAGCTTTACCTCAATGAGACCTTCTCTGAGCTGC GGCTGGACAGCGTGGTCCAGTGGATGGAGCATTTCGAGACATGGCCCTCCCACCTCCCATTGTGGCTCACGCAG GGAAGGAGGAGATCCTGCTAATTAAAGCTGCAAAGGCACGGGGCTTGCCAGTGACCTGCGAGGTGGCTCCCCACC ACCTGTTCCTAAGCCATGATGACCTGGAGCGCCTGGGGCCTGGGGAAGGGGGAGGTCCGGCCTGAGCTTGGCTCCC GCCAGGATGTGGAAGCCCTGTGGGAGAACATGGCTGTCATCGACTGCTTTGCCTCAGACCATGCTCCCCATACCT TGGAGGAGAAGTGTGGGTCCAGGCCCCCACCTGGGTTCCCAGGGTTAGAGACCATGCTGCCACTACTCCTGACGG TGCCCCGCAGGAGGACACCTATGTGGAGGTGGATCTGGAGCATGAGTGGACAATTCCCAGCCACATGCCCTTCT CCAAGGCCCACTGGACACCTTTTGAAGGGCAGAAAGTGAAGGGCACCGTCCGCCGTGTGGTCCTGCGAGGGGAGG TTGCCTATATCGATGGGCAGGTTCTGGTACCCCCGGGCTATGGACAGGATGTACGGAAGTGGCCACAGGGGGCTG TTCCTCAGCTCCCACCCTCAGCCCCTGCCACTAGTGAGATGACCACGACACCTGAAAGACCCCGGCCGTGGCATCC CAGGGCTTCCTGATGGCCGCTTCCATCTGCCGCCCCGAATCCATCGAGCCTCCGACCCAGGTTTGCCAGCTGAGG AGCCAAAGGAGAAGTCCTCTCGGAAGGTAGCCGAGCCAGAGCTGATGGGAACCCCTGATGGCACCTGCTACCCTC CACCACCAGTACCGAGACAGGCATCTCCCCAGAACCTGGGGACCCCTGGCTTGCTGCACCCCCAGACCTCACCCC TGCTGCACTCATTAGTGGGCCAACATATCCTGTCCGTCCAGCAGTTCACCAAGGATCAGATGTCTCACCTGTTCA $\tt ATGTGGCACACACACTGCGTATGATGGTGCAGAAGGAGCCGGAGCCTCGACATCCTGAAGGGGAAGGTCATGGCCT$ TCAGCTTCTCGGAAGCCACATCGTCCGTCCAGAAGGGCGAATCCCTGGCTGACTCCGTGCAGACCATGAGCTGCT ATGCCGACGTCGTCGTCCTCCGGCACCCCAGCCTGGAGCAGTGGAGCTGGCCGCCAAGCACTGCCGGAGGCCAG TGGGAACTGTCAATGGCATGACGATCACGATGGTGGGTGACCTGAAGCACGGACGCACAGTACATTCCCTGGCCT TCACTCCCCACATCATGACCCGGGCCAAGAAGAAGATGGTGGTGATGCACCCGATGCCCCGTGTCAACGAGATAA GCGTGGAAGTGGACTCGGATCCCCGCGCAGCCTACTTCCGCCAGGCTGAGAACGGCATGTACATCCGCATGGCTC AAGGAATTCCAGTGCCTCCTACGGGGGCAGCACACTTAGATATTCCTGGACATCCAGATTGCTCACATGTGCTGA TCTTCATTCCTGCACCTTAAACCTGTACAGTCATTTTTCTACTGACTTAATAAACAGCCGAGCTGTCCCTTG

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743/6881 FIGURE 693

 ${\tt MAALVLEDGSVLRGQPFGAAVSTAGEVVFQTGMVGYPEALTDPSYKAQILVLTYPLIGNYGIPPDEMDEFGLCKW}$ FESSGIHVAALVVGECCPTPSHWSATRTLHEWLQQHGIPGLQGVDTRELTKKLREQGSLLGKLVQNGTEPSSLPF LDPNARPLVPEVSIKTPRVFNTGGAPRILALDCGLKYNQIRCLCQRGAEVTVVPWDHALDSQEYEGLFLSNGPGD PASYPSVVSTLSRVLSEPNPRPVFGICLGHQLLALAIGAKTYKMRYGNRGHNQPCLLVGSGRCFLTSQNHGFAVE TDSLPADWAPLFTNANDGSNEGIVHNSLPFFSVQFHPEHQAGPSDMELLFDIFLETVKEATAGNPGGQTVRERLT ERLCPPGIPTPGSGLPPPRKVLILGSGGLSIGQAGEFDYSGSQAIKALKEENIQTLLINPNIATVQTSQGLADKV YFLPITPHYVTOVIRNERPDGVLLTFGGOTALNCGVELTKAGVLARYGVRVLGTPVETIELTEDRRAFAARMAEI GEHVAPSEAANSLEQAQAAAERLGYPVLVRAAFALGGLGSGFASNREELSALVAPAFAHTSQVLVDKSLKGWKEI EYEVVRDAYGNCVTVCNMENLDPLGIHTGESIVVAPSQTLNDREYQLLRQTAIKVTQHLGIVGECNVQYALNPES EQYYIIEVNARLSRSSALASKATGYPLAYVAAKLALGIPLPELRNSVTGGTAAFEPSVDYCVVKIPRWDLSKFLR VSTKIGSCMKSVGEVMGIGRSFEEAFQKALRMVDENCVGFDHTVKPVSDMELETPTDKRIFVVAAALWAGYSVDR LYELTRIDRWFLHRMKRIIAHAQLLEQHRGQPLPPDLLQQAKCLGFSDKQIALAVLSTELAVRKLRQELGICPAV KOIDTVAAEWPAOTNYLYLTYWGTTHDLTFRTPHVLVLGSGVYRIGSSVEFDWCAVGCIQQLRKMGYKTIMVNYN PETVSTDYDMCDRLYFDEISFEVVMDIYELENPEGVILSMGGQLPNNMAMALHRQQCRVLGTSPEAIDSAENRFK FSRLLDTIGISOPOWRELSDLESAROFCOTVGYPCVVRPSYVLSGAAMNVAYTDGDLERFLSSAAAVSKEHPVVI SKFIQEAKEIDVDAVASDGVVAAIAISEHVENAGVHSGDATLVTPPQDITAKTLERIKAIVHAVGQELQVTGPFN LQLIAKDDQLKVIECNVRVSRSFPFVSKTLGVDLVALATRVIMGEEVEPVGLMTGSGVVGVKVPQFSFSRLAGAD VVLGVEMTSTGEVAGFGESRCEAYLKAMLSTGFKIPKKNILLTIGSYKNKSELLPTVRLLESLGYSLYASLGTAD FYTEHGVKVTAVDWHFEEAVDGECPPQRSILEQLAEKNFELVINLSMRGAGGRRLSSFVTKGYRTRRLAADFSVP LIIDIKCTKLFVEALGQIGPAPPLKVHVDCMTSQKLVRLPGLIDVHVHLREPGGTHKEDFASGTAAALAGGITMV CAMPNTRPPIIDAPALALAQKLAEAGARCDFALFLGASSENAGTLGTVAGSAAGLKLYLNETFSELRLDSVVQWM EHFETWPSHLPIVAHAEQQTVAAVLMVAQLTQRSVHICHVARKEEILLIKAAKARGLPVTCEVAPHHLFLSHDDL ERLGPGKGEVRPELGSRQDVEALWENMAVIDCFASDHAPHTLEEKCGSRPPPGFPGLETMLPLLLTAVSEGRLSL DDLLQRLHHNPRRIFHLPPQEDTYVEVDLEHEWTIPSHMPFSKAHWTPFEGQKVKGTVRRVVLRGEVAYIDGQVL VPPGYGODVRKWPQGAVPQLPPSAPATSEMTTTPERPRRGIPGLPDGRFHLPPRIHRASDPGLPAEEPKEKSSRK ${\tt VAEPELMGTPDGTCYPPPPVPRQASPQNLGTPGLLHPQTSPLLHSLVGQHILSVQQFTKDQMSHLFNVAHTLRMM}$ VQKERSLDILKGKVMASMFYEVSTRTSSSFAAAMARLGGAVLSFSEATSSVQKGESLADSVQTMSCYADVVVLRH PQPGAVELAAKHCRRPVINAGDGVGEHPTQALLDIFTIREELGTVNGMTITMVGDLKHGRTVHSLACLLTQYRVS LRYVAPPSLRMPPTVRAFVASRGTKQEEFESIEEALPDTDVLYMTRIQKERFGSTQEYEACFGQFILTPHIMTRA KKKMVVMHPMPRVNEISVEVDSDPRAAYFRQAENGMYIRMALLATVLGRF

 ${\tt MLHARCCLNQKGTILGLDLQNCSLEDPGPNFHQAHTTVIIDLQANPLKGDLANTFRGFTQLQTLILPQHVNCPGG} \\ {\tt INAWNTITSYIDNQICQGQKNLCNNTGDPEMCPENGSCVPDGPGLLQCVCADGFHGYKCMRQGSFSLLMFFGILGATTLSVSILLWATQRRKAKTS}$

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GGAGCACCAAGGGAACGGAAAATGGCGCCTCACGGCCCGGGTAGTCTTACGACCCTGGTGCCCTGGGCTGCCGCC
CTGCTCCTCGCTCTGGGCGTGGAAAGGGCTCTGGCGCTACCCGAGATATGCACCCAATGTCCAGGAGCGTGCAA
AATTTGTCAAAAGTGGCCTTTTATTGTAAAACGACACGAGAGCTAATGC
CAGCACCATCTTGGGGCTGGATCTCCAGAACTGTTCTCTGGAGGACCCTGGTCCAAACTTTCATCAGGCACAT
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CTCCAGACTCTGATACTGCCACAACATGTCAACTGTCCTGGAGGAATTAATGCCTGGAATACTATCACCTCTTAT
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TGGGCGACCCAGCGCCGAAAAGCCAAGACTTCATGAACTACATAGGTCTTACCATTGACCTAAGATCAATCTGAA
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CCGCCATTGGAAGATGAAAAATTGCACTCCCTTGGTGTAGACAAATACCAGTTCCCATTGGTGTTGTCCTATA
ATAAACACTTTTTCTTTTTAAAAA

MLHARCCLNQKGTILGLDLQNCSLEDPGPNFHQAHTTVIIDLQANPLKGDLANTFRGFTQLQTLILPQHVNCPGG INAWNTITSYIDNQICQGQKNLCNNTGDPEMCPENGSCVPDGPGLLQCVCADGFHGYKCMRQGSFSLLMFFGILG ATTLSVSILLWATQRRKAKTS

GCGCCCTAGCCCTCTTTCGGGGATACTGGCCGACCCCCTCTTCCTTTTCCCCTTTAGTGAAGGCCTCCCCCGTCG CCGCGCGGCTTCCCGGAGCCGACTGCAGACTCCCTCAGCCCGGTGTTCCCCGCGTCCGGACGCCGAGGTCGCGGC TTCGCAGAAACTCGGGCCCCTCCATCCGCCCTCAGAAAAGGGAGCGATGTTGATCTCAGGAAGCACAAAGGGACC TTCCTAGCTCTGACCGCACCCCGGACCTCGCCCTGGACAGTATCACTCCGTGGAGGAAGACTGTGAGACTGTGGC TGGAAGCCAGATTGTAGCCACACATCCGCCCTGCCCTACCCCAGAGCCCTGGAGCAGCAACTGGCTGCAGATCA CAGACACAGTGAGGAT<u>ATC</u>AGTGTAGGGGTGAGCACCTCAGCCCCTCTTTCCCCAACCTCGGGCACAAGCGTGGG CCATGCTTGTCGTGGCTGGGGCCGGCATACTGTTGGTGAGCTGCTGATGGCGGACCGCAAAATGGGCTGCCTTCC GGTGGCACTGTCCCTGCTGGCCACCTTCCAGTCAGCCGTGGCCATCCTGGGTGTGCCGTCAGAGATCTACCGATT TGGGACCCAATATTGGTTCCTGGGCTGCTACTTTCTGGGGCTGCTGATACCTGCACACATCTTCATCCCCGT TTTCTACCGCCTGCATCTCACCAGTGCCTATGAGTACCTGGAGCTTCGATTCAATAAAACTGTGCGAGTGTGTGG AACTGTGACCTTCATCTTTCAGATGGTGATCTACATGGGAGTTGTGCTCTATGCTCCGTCATTGGCTCTCAATGC AGTGACTGGCTTTGATCTGTGGCTGTCCGTGCTGGCCCTGGGCATTGTCTGTACCGTCTATACAGCTCTGGGTGG GCTGAAGGCCGTCATCTGGACAGATGTGTTCCAGACACTGGTCATGTTCCTCGGGCAGCTGGCAGTTATCATCGT GGGGTCAGCCAAGGTGGGCGTTGGGGCGTGTGTGGGCCGTGGCTTCCCAGCACGGCCGCATCTCTGGGTTTGA GCTGGATCCAGACCCCTTTGTGCGGCACACCTTCTGGACCTTGGCCTTCGGGGGTGTCTTCATGATGCTCTCCTT ATACGGGGTGAACCAGGCTCAGGTGCAGCGGTACCTCAGTTCCCGCACGGAGAAGGCTGCTGTGCTCCCTGTTA TGCAGTGTTCCCCTTCCAGCAGGTGTCCCTCTGCGTGGGCTGCCTCATTGGCCTGGTCATGTTCGCGTATTACCA GGAGTATCCCATGAGCATTCAGCAGGCTCAGGCAGCCCCAGACCAGTTCGTCCTGTACTTTGTGATGGATCTCCT GAAGGGCCTGCCAGGCCTCTCCATTGCCTGCCTCTTCAGCGGCTCTCTCAGCACTATATCCTCTGC T"TTAATTCATTGGCAACTGTTACGATGGAAGACCTGATTCGACCTTGGTTCCCTGAGTTCTCTGAAGCCCGGGC CATCATGCTTTCCAGAGGCCTTGCCTTTGGCTATGGGCTGCTTTGTCTAGGAATGGCCTATATTTCCTCCCAGAT GGGACCTGTGCTGCAGCCAGCAATCAGCATCTTTGGCATGGTTGGGGGACCGCTGCTGGGACTCTTCTGCCTTGG AATGTTCTTTCCATGTGCTAACCCTCCTGGTGCTGTTGTGGGCCTGTTGGCTGGGCTCGTCATGGCCTTCTGGAT TGGCATCGGGAGCATCGTGACCAGCATGGGCTTCAGCATGCCACCCTCTCCCTCTAATGGGTCCAGCTTCTCCCT GCCCACCAATCTAACCGTTGCCACTGTGACCACACTGATGCCCTTGACTACCTTCTCCAAGCCCACAGGGCTGCA GCGGTTCTATTCCTTGTCTTACTTATGGTACAGTGCTCACAACTCCACCACAGTGATTGTGGGGGCCTGATTGT CAGTCTACTCACTGGGAGAATGCGAGGCCGGTCCCTGAACCCTGCAACCATTTACCCAGTGTTGCCAAAGCTCCT GTCCCTCCTTCCGTTGTCCTGTCAGAAGCGGCTCCACTGCAGGAGCTACGGCCAGGACCACCTCGACACTGGCCT GTTTCCTGAGAAGCCGAGGAATGGTGTGCTGGGGGACAGCAGAGACAAGGAGGCCCATGGCCCTGGATGGCACAGC $\tt CTATCAGGGGAGCAGCTCCACCTGCATCCTCCAGGAGACCTCCCTG{\color{red}{\textbf{TGA}}} \textbf{TGTTGACTCAGGACCCCGCCTCTGTC}$ CTCACTGTGCCAGGCCATAGCCAGAGGCCACCCTGTAGTACAGGGATGAGTCTTGGTGTTCTGCAGGGACAGG CCTGGATGATCTAGCTCATACCAAAGGACCTTGTTCTGAGAGGTTCTTGCCTGCAGGAGAAGCTGTCACATCTCA AGCATGTGAGGCACCGTTTTTCTCGTCGCTTGCCAATCTGTTTTTTAAAGGATCAGGCTCGTAGGGAGCAGGATC ATGCCAGAAATAGGGATGGAAGTGCATCCTCTGGGAAAAAGATAATGGCTTCTGATTCAACATAGCCATAGTCCT CCATCCTCCACCTCTGAGATGGACACTTAAGAGACGGGGCAAATGTGGATCCAAGAAACCAGGGCCATGACCAGG TCCACTGTGGAGCAGCCATCTATCTACCTGACTCCTGAGCCAGGCTGCCGTGGTGTCATTTCTGTCATCCGTGCT CTGTTTCCTTTTGGAGTTTCTTCCACATTATCTTTGTTCCTGGGGAATAAAAACTACCATTGGACCTAAAAAA AAAAAAAAAAA

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749/6881 FIGURE 699

MSVGVSTSAPLSPTSGTSVGMSTFSIMDYVVFVLLLVLSLAIGLYHACRGWGRHTVGELLMADRKMGCLPVALSL LATFQSAVAILGVPSEIYRFGTQYWFLGCCYFLGLLIPAHIFIPVFYRLHLTSAYEYLELRFNKTVRVCGTVTFI FQMVIYMGVVLYAPSLALNAVTGFDLWLSVLALGIVCTVYTALGGLKAVIWTDVFQTLVMFLGQLAVIIVGSAKV GGLGRVWAVASQHGRISGFELDPDPFVRHTFWTLAFGGVFMMLSLYGVNQAQVQRYLSSRTEKAAVLSCYAVFPF QQVSLCVGCLIGLVMFAYYQEYPMSIQQAQAAPDQFVLYFVMDLLKGLPGLPGLFIACLFSGSLSTISSAFNSLA TVTMEDLIRPWFPEFSEARAIMLSRGLAFGYGLLCLGMAYISSQMGPVLQAAISIFGMVGGPLLGLFCLGMFFPC ANPPGAVVGLLAGLVMAFWIGIGSIVTSMGFSMPPSPSNGSSFSLPTNLTVATVTTLMPLTTFSKPTGLQRFYSL SYLWYSAHNSTTVIVVGLIVSLLTGRMRGRSLNPATIYPVLPKLLSLLPLSCQKRLHCRSYGQDHLDTGLFPEKP RNGVLGDSRDKEAMALDGTAYQGSSSTCILQETSL

GCCTGCGCGGAGGGGAGCCGCGAGACAGGTGCGCATGCGCAGTGCGCGTCTGCGAGACCGACTTGGACGGAGCCGA GCTGAGGCTCGGCTTCCTGCTGATGGTCAGGGTTTTGGCAACTCCCCGGTGTGAGAGGGGTAGGGAGTGCTCCCG GTGCGGGCAGTGAACGCGCGCGGGGGGGGGGGGCGCGGGCGCCAGAGCTGTACCGGGCTCCGTTCCCGT TAAAGAATGGCGTGCACTTCTGCAGCTAGAGCTGATTAATGGGCGCTTGAGTGCCTCCTTGCTGCACTCCCATG ACACAGAGACACGGGCCACCATGAACTTGGCACTGGCTGACATCCTTGCTGCAGGGCAGGATGCCCACTGTC AGCTCCTGCGCTTCCAGGCACATCAACAGCAGGGCAACAAGGCAGAGAAGGCCGGTTCCAAGGAGCAGGGGCCTC GACAAAGGAAGGGAGCAGCCCCAGCAGAAAAAATGTGGAGCGGAAACCCAGCACGAGGGGCTAGAACTCAGGG TAGAGAATTTGCAGGCGGTGCAGACAGACTTTAGCTCCGATCCACTGCAGAAAGTTGTGTGCTTCAACCACGATA ATACCCTGCTTGCCACTGGAGGAACAGATGGCTACGTCCGTGTCTGGAAGGTGCCCAGCCTGGAGAAGGTTCTGG AGTTCAAAGCCCACGAAGGGGAGATTGAAGACCTGGCTTTAGGGCCTGATGGCAAGTTGGTAACCGTGGGCCGGG ACCTTAAGGCCTCTGTGTGGCAGAAGGATCAGCTGGTGACACAGCTGCACTGGCAAGAAAATGGACCCACCTTTT CCAGCACACCTTACCGCTACCAGGCCTGCAGGTTTGGGCAGGTTCCAGACCAGCCTGCTGGCCTGCGACTCTTCA TGCCCCTTCGGACCAAGTCCTGTGGCCATGAAGTCGTCTCCTGCCTCGATGTCAGTGAATCCGGCACCTTCCTAG CCCATGGCATTGTGGTGACGGATGTGGCCTTTCTACCTGAGAAGGGTCGTGGTCCAGAGCTCCTTGGGTCCCATG AAACTGCCCTGTTCTCTGTGGCTGTGGACAGTCGTTGCCAGCTGCATCTGTTGCCCTCACGGCGGAGTGTTCCTG TGTGGCTCCTGCTGTGTGTCGGGCTTATTATTGTGACCATCCTGCTGCTCCAGAGTGCCTTTCCAGGTT TCCTTTAGCTTCCCTGCTTCCTGGGAATCAGGAGCCTGGACACTGCCATCTCTAGAGCAGAGTGGAGGCCTGGAC TCCCTTTGCTCACTCCATTCGGGTCCACAGCTGAGGTTGCCGCTGACAAGATGAATGGGCACTGCCTTCT AGTGAAAAGGCTTGGCTATGGCCCTGTGTGACTCCAGGTCCCAGGAACCTTGCCTTCGTCATCTGTGGATCCATC CAGAACAGCGGTATCTGAAGCCCAGGCCATACTCCCTGCCTCCTTTCTTCTGCCTACCAGAGGCTCCAGAGTTGA TCTCCTCCTCCCCCAGCCTTGTGGCCAGTTCCTCTTCACATGAAGCCCCTGGCATTTGCTGGGGAAGGGACTGG CCTGGTACTTGCTGTTAGGGCAGGAAGGGGCAAAAGGAAGACTTGGGTAGTAATCTGGGGGTTCAGATGGGTAGC ACTAAGCCAGCTGGCCTAAAGATGCAATAAGTTCCTAGGTAGTCTACCCTTACCTTGAGGAATGGGAAAATGAAC CTCAGCCCATTAGGCAGGAAAAGTTGATATTTAATAAACAAGGAAAGAGTGAACTGAGACCCC

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 $\tt GTAGCCTC\underline{ATG}{GAAGAGAAGCAGATCCTGTGCGTGGGGGCTAGTGGTGCTGGACGTCATCAGCCTGGTGGACAAGT$ ACCCTAAGGAGGACTCGGAGATAAGGTGTTTGTCCCAGAGATGGCAGCGCGGAGGCAACGCGTCCAACTCCTGCA $\verb|CCGTTCTCCCTGCTCGGAGCCCCTGTGCCTTCATGGGCTCAATGGCTCCTGGCCATGTTGCTGATTTTGTCC| \\$ TGGATGACCTCCGCCGCTATTCTGTGGACCTACGCTACACAGTCTTTCAGACCACAGGCTCCGTCCCCATCGCCA CGGTCATCATCAACGAGGCCAGTGGTAGCCGCACCATCCTATACTATGACAGGAGCCTGCCAGATGTGTCTGCTA CAGACTTTGAGAAGGTTGATCTGACCCAGTTCAAGTGGATCCACATTGAGGGCCGGAACGCATCGGAGCAGGTGA AGATGCTGCAGCGGATAGACGCACACACACCAGGCAGCCTCCAGAGCAGAAGATCCGGGTGTCCGTGGAGGTGG AGAAGCCACGAGAGGAGCTCTTCCAGCTGTTTGGCTACGGAGACGTGGTGTTTGTCAGCAAAGATGTGGCCAAGC ACTTGGGGTTCCAGTCAGCAGAGGAAGCCTTGAGGGGGCTTGTATGGTCGTGTGAGGAAAGGGGCTGTGCTTGTCT GTGCCTGGGCTGAGGAGGCGCCGACGCCCTGGGCCCTGATGGCAAATTGCTCCACTCGGATGCTTTCCCGCCAC CCCGCGTGGTGGATACACTGGGAGCTGGAGACACCTTCAATGCCTCCGTCATCTTCAGCCTCTCCCAGGGGAGGA GCGTGCAGGAAGCACTGAGATTCGGGTGCCAGGTGGCCGGCAAGAAGTGTGGCCTGCAGGGCTTTGATGGCATCG TGTGAGAGCAGGTGCCGGCTCCTCACACACCATGGAGACTACCATTGCGGCTGCATCGCCTTCTCCCCTCCATCC AGCCTGGCGTCCAGGTTGCCCTGTTCAGGGGACAGATGCAAGCTGTGGGGAGGACTCTGCCTGTGTCCTGTTTC CTTCTCCTCTCAATGTCTGAACTGCTCTGGCTGGGCATTCCTGAGGCTCTGACTCTTCGATCCTCCTCTTTGTG TCCATTCCCCAAATTAACCTCTCCGCCCAGGCCCAGAGGAGGGGCTGCCTGGGCTAGAGCAGCGAGAAGTGCCCT GGGCTTGCCACCAGCTCTGCCCTGGCTGGGGAGGACACTCGGTGCCCCACACCCAGTGAACCTGCCAAAGAAACC GTGAGAGCTCTTCGGGGCCCTGCGTTGTGCAGACTCTATTCCCACAGCTCAGAAGCTGGGAGTCCACACCGCTGA GCTGAACTGACAGGCCAGTGGGGGGCAGGGGTGCGCCTCCTCTGCCCTGCCCACCAGCCTGTGATTTGATGGGGT CTTCATTGTCCAGAAATACCTCCTCCCGCTGACTGCCCCAGAGCCTGAAAGTCTCACCCTTGGAGCCCACCTTGG AATTAAGGGCGTGCCTCAGCCACAAATGTGACCCAGGATACAGAGTGTTGCTGTCCTCAGGGAGGTCCGATCTGG AGGGCTTTAGAGTGAGACAGACCTGGATTCAAATCTGCCATTTAATTAGCTGCATATCACCTTAGGGTACAGCAC TTAACGCAATCTGCCTCAATTTCTTCATCTGTCAAATGGAACCAATTCTGCTTGGCTACAGAATTATTGTGAGGA TAAAAATCATATATAAAAAAAAAA

MEEKQILCVGLVVLDVISLVDKYPKEDSEIRCLSQRWQRGGNASNSCTVLSLLGAPCAFMGSMAPGHVADFVLDD LRRYSVDLRYTVFQTTGSVPIATVIINEASGSRTILYYDRSLPDVSATDFEKVDLTQFKWIHIEGRNASEQVKML QRIDAHNTRQPPEQKIRVSVEVEKPREELFQLFGYGDVVFVSKDVAKHLGFQSAEEALRGLYGRVRKGAVLVCAW AEEGADALGPDGKLLHSDAFPPPRVVDTLGAGDTFNASVIFSLSQGRSVQEALRFGCQVAGKKCGLQGFDGIV

GTAGCCTCATGGAAGAGAAGCAGATCCTGTGCGTGGGGCTAGTGGTGCTGGACGTCATCAGCCTGGTGGACAAGT ACCCTAAGGAGGACTCGGAGATAAGGTGTTTGTCCCAGAGATGGCAGCGCGGAGGCAACGCGTCCAACTCCTGCA CCGTTCTCTCCCTGCTCGGAGCCCCCTGTGCCTTCATGGGCTCAATGGCTCCTGGCCATGTTGCTGACTTCCTGG TGGCCGACTTCAGGCGGCGGGGCGTGGACGTGTCTCAGGTGGCCTGGCAGAGCAAGGGGGACACCCCCAGCTCCT GCTGCATCATCAACAACTCCAATGGCAACCGTACCATTGTGCTCCATGACACGAGCCTGCCAGATGTGTCTGCTA CAGACTTTGAGAAGGTTGATCTGACCCAGTTCAAGTGGATCCACATTGAGGGCCGGAACGCATCGGAGCAGGTGA AGATGCTGCAGCGGATAGACGCACAACACCAGGCAGCCTCCAGAGCAGAAGATCCGGGTGTCCGTGGAGGTGG AGAAGCCACGAGAGGAGCTCTTCCAGCTGTTTGGCTACGGAGACGTGGTGTTTGTCAGCAAAGATGTGGCCAAGC GTGCCTGGGCTGAGGAGGGCGCCGACGCCCTGGGCCCTGATGGCAAATTGCTCCACTCGGATGCTTTCCCGCCAC $\verb|CCCGCGTGGTGGATACACTGGGAGCTGGAGACACCTTCAATGCCTCCGTCATCTTCAGCCTCTCCCAGGGGAGGA|$ GCGTGCAGGAAGCACTGAGATTCGGGTGCCAGGTGGCCGGCAAGAAGTGTGGCCTGCAGGGCTTTGATGGCATCG $\texttt{TG}\underline{\textbf{TGA}} \texttt{GAGCAGGTGCCGGCTCCTCACACCATGGAGACTACCATTGCGGCTGCATCGCCTTCTCCCCTCCATCC}$ AGCCTGGCGTCCAGGTTGCCCTGTTCAGGGGACAGATGCAAGCTGTGGGGAGGACTCTGCCTGTGTCCTGTTTC CTTCTCCTCTCAATGTCTGAACTGCTCTGGCTGGGCATTCCTGAGGCTCTGACTCTTCGATCCTCCTCTTTGTG TCCATTCCCCAAATTAACCTCTCCGCCCAGGCCCAGAGGAGGGGCTGCCTGGGCTAGAGCAGCGAGAAGTGCCCT GGGCTTGCCACCAGCTCTGCCCTGGCTGGGGAGGACACTCGGTGCCCCACACCCAGTGAACCTGCCAAAGAAAACC GTGAGAGCTCTTCGGGGCCCTGCGTTGTGCAGACTCTATTCCCACAGCTCAGAAGCTGGGAGTCCACACCGCTGA GCTGAACTGACAGGCCAGTGGGGGGCAGGGGTGCGCCTCCTCTGCCCTGCCCACCAGCCTGTGATTTGATGGGGT CTTCATTGTCCAGAAATACCTCCTCCCGCTGACTGCCCCAGAGCCTGAAAGTCTCACCCTTGGAGCCCACCTTGG AATTAAGGGCGTGCCTCAGCCACAAATGTGACCCAGGATACAGAGTGTTGCTGTCCTCAGGGAGGTCCGATCTGG AGGGCTTTAGAGTGAGACAGACCTGGATTCAAATCTGCCATTTAATTAGCTGCATATCACCTTAGGGTACAGCAC TTAACGCAATCTGCCTCAATTTCTTCATCTGTCAAATGGAACCAATTCTGCTTGGCTACAGAATTATTGTGAGGA ТАААААТСАТАТАТААААААААА

MEEKQILCVGLVVLDVISLVDKYPKEDSEIRCLSQRWQRGGNASNSCTVLSLLGAPCAFMGSMAPGHVADFLVAD FRRRGVDVSQVAWQSKGDTPSSCCIINNSNGNRTIVLHDTSLPDVSATDFEKVDLTQFKWIHIEGRNASEQVKML QRIDAHNTRQPPEQKIRVSVEVEKPREELFQLFGYGDVVFVSKDVAKHLGFQSAEEALRGLYGRVRKGAVLVCAW AEEGADALGPDGKLLHSDAFPPPRVVDTLGAGDTFNASVIFSLSQGRSVQEALRFGCQVAGKKCGLQGFDGIV

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CCTCGAGGTTTCAGCCTCTACACAGGTTCCAGTGGGGCCCTCAGCCCCGGGGGGCCCCAGGCCCAGATTGCCCCC CGGCCAGCCAGCCGCCACAGGAACTGGTGTGCCTACGTGGTGACCCGGACAGTGAGCTGTGTCCTTGAGGATGGA GTGGAGACATATGTCAAGTACCAGCCTTGTGCCTGGGGCCAGCCCCAGTGTCCCCAAAGCATCATGTACCGCCGC TTCCTCCGCCCTCGCTACCGTGTGGCCTACAAGACAGTGACCGACATGGAGTGGAGGTGCTGTCAGGGTTATGGG GGCGATGACTGTGCTGAGAGTCCCGCTCCAGCGCTGGGGCCTGCGTCTTCCACACCACGGCCCTGGCCCGGCCT GCCCGCCCAACCTCTCTGGCTCCAGTGCAGGCCCCCTCAGTGGACTGGGGGGAGAAGGTCCTGGGGAGTCA GAGAAGGTGCAGCAGCTGGAGGAACAGGTGCAGAGCCTGACCAAGGAGCTGCAAGGCCTGCGGGGCGTCCTGCAA GACGCGGCTGCCCGCCTGGGGTGCATGAAACCCTCAATGAGATCCAGCACCAGCTGCAGCTCCTGGACACCGC GCCCAGCCCAGCCTCAGCCCTCCGGGCCCCAGTGAGGAGCTGCTGCGGCAGCTGGAGCAGCGGTTGCAGGAG TCCTGCTCCGTGTGCCTGGCCGGGCTAGATGGCTTCCGCCGGCAGCAGCAGGAGGACAGGAGCGGCTGCGAGCG ATGGAGAAGCTGCTGGCCTCGGTGGAGGAGCGGCAACGGCACCTCGCAGGGCTGGCGGTGGGCCGCAGGCCCCCT CAGGAATGCTGCTCTCCAGAGCTGGGCCGGCGACTGGCAGAGCTGGAGCGCAGGCTGGATGTCGTGGCCGGCTCA ACCAGCTTGGCCTCCCGCCTGCCTGGAGGACCGCTTCAACTCCACCCTGGGCCCTTCGGAGGAGCAGGAG CAGGCATGCGGGCAGCTCTGCTCTGGGGCCCCTGGGGAGCAGGACTCTCAAGTCAGCGAGATCCTCAGTGCCTTG GAGCGCAGGGTGCTGGACAGTGAGGGGCAGCTGCGGCTGGTGGGCTCCGGCCTGCACACGGTGGAAGCAGCGGGG GAGGCCCGGCAGGCCACGCTGGAGGGATTACAAGAGGTTGTGGGCCGGCTCCAGGATCGTGTGGATGCCCAGGAT GAGACAGCTGCAGAGTTCACACTACGGCTGAATCTCACTGCGGCCCGGCTAGGCCAACTGGAGGGGCTGCTGCAG GCCCATGGGGATGAGGGCTGTGGGGGCCTGTGGCGGAGTCCAAGAGGAACTAGGCCGCCTTCGGGATGGTGTGAG CGCTGCTCCTGCCCCCTGTTGCCTCCTCGGGGTCCTGGGGCTGGTCCAGGTGTTGGGGGCCCAAGCCGTGGGCCC CTGGACGGCTTCAGCGTGTTTTGGGGGCAGCTCAGGCTCAGCCCTGCAGGCCCTGCAAGGAGAGCTCTCTGAGGTT ATTCTCAGCTTCAGCTCCCTCAATGACTCACTGAATGAGCTCCAGACCACTGTGGAGGGCCAGGGCGCTGATCTG GCTGACCTGGGGGCAACCAAGGACCGTATCATTTCTGAGATTAACAGGCTGCAGCAGGAGGCCACAGAGCATGCT ACAGAGAGTGAAGAGCGCTTCCGAGGCCTAGAGGAGGGCCAAGCCACGCCCAGTGCCCCAGCTTAGAGGGG CGATTGGGCCGTCTTGAGGGTGTCTGTGAACGGTTGGACACTGTGGCTGGGGGACTGCAGGGCCTGCGCGAGGGC CTGGAGAAGCTGGTCGGGGGACAGGCGGGCCTGGGCAGGCGGCTGGGTGCCCTTAACAGCTCCCTGCAGCTCCTG GAGGACCGTCTGCACCAGCTCAGCCTGAAGGACCTCACTGGGCCTGCAGGAGAGGCTGGGCCCCCAGGGCCTCCT GGGCTGCAGGGACCCCCAGGCCCTGCTGGACCTCCAGGATCACCAGGCAAGGACGGGCAAGAGGGCCCCATCGGG CCACCAGGTCCTCAAGGGGAACAGGGAGTGGAGGGGGCACCAGCAGCCCCTGTGCCCCAAGTGGCATTTTCAGCT GCTCTGAGTTTGCCCCGGTCTGAACCAGGCACGGTCCCCTTCGACAGAGTCCTGCTCAATGATGGAGGCTATTAT GATCCAGAGACAGGCGTGTTCACAGCGCCACTGGCTGGACGCTACTTGCTGAGCGCGGTGCTGACTGGGCACCGG CACGAGAAGTGGAGGCCGTGCTGTCCCGCTCCAACCAGGGCGTGGCCCGCGTAGACTCCGGTGGCTACGAGCCT GAGGGCCTGGAGAATAAGCCGGTGGCCGAGAGCCAGCCCAGCCCGGGCACCCTGGGCGTCTTCAGCCTCATCCTG CCGCTGCAGGCCGGGGACACGGTCTGCGTCGACCTGGTCATGGGGCAGCTGGCGCACTCGGAGGAGCCGCTCACC ACGTCGGCTGAAGAGACAGCGGGGGCGGGGCTCCTGGGGTCTCGCCTGAGACGGGGCACCTAGCCCTGGGCGA GCGCCGCACCCGGGCCCGCACCGCGCCCCAGAGCGGCCTCTCCCCACGCCCGGGCGCGCCGGCTCAGGG GAGCCGATCCTCGCACCTCCGCTCCCTCCACTGGCCCTCCAGGTCGATTCCCTGGGCTCCAGGCTCCCCGGGGC GGGCGCCGCCACCGCCATACTAAACGATCGAGGAATAAAGACACTTGGTTTTTCT

MAPRTLWSCYLCCLLTAAAGAASYPPRGFSLYTGSSGALSPGGPQAQIAPRPASRHRNWCAYVVTRTVSCVLEDG
VETYVKYQPCAWGQPQCPQSIMYRRFLRPRYRVAYKTVTDMEWRCCQGYGGDDCAESPAPALGPASSTPRPLARP
ARPNLSGSSAGSPLSGLGGEGPGESEKVQQLEEQVQSLTKELQGLRGVLQGLSGRLAEDVQRAVETAFNGRQQPA
DAAARPGVHETLNEIQHQLQLLDTRVSTHDQELGHLNNHHGGSSSSGGSRAPAPASAPPGPSEELLRQLEQRLQE
SCSVCLAGLDGFRRQQQEDRERLRAMEKLLASVEERQRHLAGLAVGRRPPQECCSPELGRRLAELERRLDVVAGS
VTVLSGRRGTELGGAAGQGGHPPGYTSLASRLSRLEDRFNSTLGPSEEQEESWPGAPGGLSHWLPAARGRLEQLG
GLLANVSGELGGRLDLLEEQVAGAMQACGQLCSGAPGEQDSQVSEILSALERRVLDSEGQLRLVGSGLHTVEAAG
EARQATLEGLQEVVGRLQDRVDAQDETAAEFTLRLNLTAARLGQLEGLLQAHGDEGCGACGGVQEELGRLRDGVE
RCSCPLLPPRGPGAGPGVGGPSRGPLDGFSVFGGSSGSALQALQGELSEVILSFSSLNDSLNELQTTVEGQGADL
ADLGATKDRIISEINRLQQEATEHATESEERFRGLEEGQAQAGQCPSLEGRLEGVCERLDTVAGGLQGLREG
LSRHVAGLWAGLRETNTTSQMQAALLEKLVGGQAGLGRRLGALNSSLQLLEDRLHQLSLKDLTGPAGEAGPPGPP
GLQGPPGPAGPPGSPGKDGQEGPIGPPGPQGEQGVEGAPAAPVPQVAFSAALSLPRSEPGTVPFDRVLLNDGGYY
DPETGVFTAPLAGRYLLSAVLTGHRHEKVEAVLSRSNQGVARVDSGGYEPEGLENKPVAESQPSPGTLGVFSLIL
PLQAGDTVCVDLVMGQLAHSEEPLTIFSGALLYGDPELEHA

GGCACGAGGGGCACCGCGGCGCTCGGGTGTTTTTGGGGGCCCGGGTGGAGGGCCCGGGTGCCGGGGCCCAAGGTG TGCTTTCCCAGCCCCACCATGGAGCTGCGCTGTGGGGGATTGCTGTTCAGTTCTCGCTTTGATTCAGGGAATCTA GCCCACGTGGAGAAGGTGGAATCTTTGTCCAGTGATGGGGAAGGGGTAGGAGGTGGGGCGTCAGCCCTGACCAGT GGCATTGCCTCTTCCCCTGACTATGAATTCAACGTGTGGACCCGACCAGACTGTGCTGAAACGGAATTTGAGAAT GGGAACAGGTCATGGTTCTACTTCAGCGTCCGGGGAGGAATGCCAGGAAAACTCATCAAGATCAACATT<u>ATG</u>AAC ATGAACAAGCAGAGCAAGCTGTATTCCCAGGGCATGGCCCCCTTTGTGCGCACACTGCCCACCCGGCCACGCTGG GAACGCATTCGAGACCGGCCCACCTTTGAGATGACAGAGACGCAGTTTGTGTTATCCTTTGTTCATCGTTTCGTG GAGGGCCGTGGGGCCACCACCTTCTTCGCCTTCTGCTACCCCTTCTCCTACAGTGACTGCCAGGAACTGCTAAAC CAGCTAGACCAGCGCTTTCCGGAGAACCACCCTACCCATAGCAGCCCCCTGGATACCATCTATTACCATCGGGAG CTCCTTTGCTATTCTCTGGATGGACTTCGTGTAGATCTGCTGACGATCACTTCCTGCCATGGGCTTCGAGAAGAT CGAGAGCCCCGTCTAGAGCAGCTATTTCCTGATACCAGCACCCCTCGACCATTCCGTTTCGCAGGCAAGAGGATA TTCTTCTTAAGCAGTAGAGTACACCCAGGGGAGACTCCATCTAGCTTTGTCTTCAATGGCTTTCTGGACTTCATC CTCCGACCTGATGATCCCCGGGCCCAAACCCTCCGTCGCCTCTTCGTCTTTAAGCTGATTCCCATGTTGAACCCC GATGGTGTGGTCCGGGGACACTACCGCACAGACTCACGTGGAGTGAATCTGAACCGTCAGTACCTGAAGCCTGAT GCCGTCCTGCACCCGGCCATCTATGGGGCCAAAGCTGTGCTTCTCTACCACCATGTGCACTCTCGTCTGAACTCC GCAGAACAGAAGCTCAACAGTGTGTGGATTATGCCACAACAGTCTGCGGGGCTTGAAGAGTCAGCCCCTGATACC ATCCCCCCAAAGAGAGTGGCGTTGCTTACTATGTGGACCTGCATGGACATGCTTCCAAAAGGGGCTGCTTCATG TACGGAAACAGCTTTAGTGATGAGAGCACCCAGGTGGAAAACATGCTATATCCAAAGCTCATCTCCTTGAATTCA AAAGAGGGAAGCGGCCGTGTTGCAATCTACAAAGCCTCAGGGATAATCCACAGCTACACACTTGAATGCAACTAC GCTTTCCCCTCCAGATACACTGTGGAACTATTTGAGCAGGTGGGACGAGCTATGGCCCATTGCAGCCCTGGACATG GCGGAATGTAATCCGTGGCCCCGAATTGTACTGTCAGAGCACAGCAGCCTTACTAATCTACGGGCCTGGATGCTG AAACATGTACGCAACAGCCGAGGCCTAAGCAGCACTCTGAATGTGGGTGTCAACAAGAAGAGGGGGCCTTCGAACT CCACCCAAAAGTCACAATGGGTTGCCTGTCTCCTGCTCCGAAAACACCTTGAGTCGGGCACGAAGTTTTAGCACC GGCACAAGTGCCGGTGGTAGCAGCAGCAGCCAACAAAATTCTCCACAGATGAAGAATTCCCCCCAGCTTTCCTTTT AACATACCAGGGAGCAGTTGCTCACTCTTGTCCTCTGGAGACAAACCAGAGGCTGTCATGGTAATCGGGAAAGGT CTGCTAGGGACTGGAGCTCGGATGCCCTGCATCAAGACTCGATTGCAGACCTGTCCGAGGAGAGTTTCCGCCAGG AGGGGTCCCGGATTCCCCAGGCTAGGCCCAGGTTGGGCCGGGGCTCACCGCCGACTCGCAGAGGGATGAAAGGCTCTTCAGGCCCCACATCCCCTACCCCCGGACCAGGGAGAGCAGTGAGCTGGAGCTGGGATCCTGCTACAC CAGGGCTGCCTCAGGCCAGGCCCCACGGCCCCGCTCTGCCCTTTTCTCCTATATCCTGTAGTCTATCTG CACTGACTGTTTCTCCCCGGGTCTGATAATGCCTTTATGTTCAATCCCAGGATATAGCCCCAAGATGGGGTAACA GCTGTCCAAGGCATTACAGAGTATCACCTTGAGACAGAACAAAACAGGGACCTGCCACCCCTTCCCTCCGC ATACTGGGCCCTATTCAGTGGCAGCTTCTTGTTCCATAGGATTAAGGAAGACTCTGAGGAAATAAAAGTTGTTTG **GAAAAATCCAAAAAAAAAAAAAAAAA**

MNMNKQSKLYSQGMAPFVRTLPTRPRWERIRDRPTFEMTETQFVLSFVHRFVEGRGATTFFAFCYPFSYSDCQEL LNQLDQRFPENHPTHSSPLDTIYYHRELLCYSLDGLRVDLLTITSCHGLREDREPRLEQLFPDTSTPRPFRFAGK RIFFLSSRVHPGETPSSFVFNGFLDFILRPDDPRAQTLRRLFVFKLIPMLNPDGVVRGHYRTDSRGVNLNRQYLK PDAVLHPAIYGAKAVLLYHHVHSRLNSQSSSEHQPSSCLPPDAPVSDLEKANNLQNEAQCGHSADRHNAEAWKQT EPAEQKLNSVWIMPQQSAGLEESAPDTIPPKESGVAYYVDLHGHASKRGCFMYGNSFSDESTQVENMLYPKLISL NSAHFDFQGCNFSEKNMYARDRRDGQSKEGSGRVAIYKASGIIHSYTLECNYNTGRSVNSIPAACHDNGRASPPP PPAFPSRYTVELFEQVGRAMAIAALDMAECNPWPRIVLSEHSSLTNLRAWMLKHVRNSRGLSSTLNVGVNKKRGL RTPPKSHNGLPVSCSENTLSRARSFSTGTSAGGSSSSQQNSPQMKNSPSFPFHGSRPAGLPGLGSSTQKVTHRVL GPVREPRSQDRRRQQQPLNHRPAGSLAPSPAPTSSGPASSHKLGSCLLPDSFNIPGSSCSLLSSGDKPEAVMVIG KGLLGTGARMPCIKTRLQTCPRRVSARRGPGFPRLGPGWAGAHRRLAEG

 ${\tt TCGGAGGAGAAC} \underline{{\tt ATG}} {\tt CTTGCCAACTCAGCCAGCGTGAGGATCCTCATCAAGGGAGGCAAGGTGGTGAACGATGAC$ TGCACCCACGAGGCTGACGTCTACATCGAGAATGGCATCATCCAGCAGGTGGGCCGCGAGCTCATGATCCCTGGC GGGGCCAAGGTGATTGATGCCACAGGAAAACTGGTGATCCCTGGTGGCATCGACACCAGCACCCACTTCCACCAG ACCTTCATGAATGCCACGTGCGTGGACGACTTCTACCATGGGACCAAGGCAGCACTCGTCGGAGGCACCACCATG ATCATCGGCCACGTCCTGCCCGACAAGGAGACCTCCCTTGTGGACGCTTATGAGAAGTGCCGAGGTCTGGCCGAC CCCAAGGTCTGCTGTGATTACGCCCTCCACGTGGGGATCACCTGGTGGGCACCCAAGGTGAAAGCAGAAATGGAG ACACTGGTGAGGGAGAAGGGTGTCAACTCGTTCCAGATGTTCATGACCTACAAGGACCTGTACATGCTTCGAGAC AGTGAGCTGTACCAAGTGTTGCACGCTTGCAAGGACATTGGGGCAATCGCCCGCGTCCATGCTGAAAATGGGGAG CTTGTGGCCGAGGGTGCTAAGGAGGCACTGGATTTGGGGATCACAGGCCCAGAAGGAATCGAGATCAGCCGTCCA GAGGAGCTGGAAGCCACTCATCGTGTTATCACCATTGCAAACAGGACTCACTGTCCAATCTACCTGGTC AACGTGTCCAGTATCTCGGCTGGTGACGTTATCGCAGCTGCTAAGATGCAAGGGAAGGTTGTGCTGGCGGAGACC ACCACTGCACATGCCACGCTGACAGGCTTACACTACTACCACCAGGACTGGTCCCACGCGGCTGCCTATGTCACG GTGCCTCCCTGAGACTGGACACCACACCTCAACCTCATGAGCCTGCTGGCCAATGACACTCTGAACATC GTGGCATCAGATCACCGGCCTTTCACCACAAAGCAGAAAGCTATGGGCAAGGAAGACTTCACCAAGATCCCACAT CGTTTTGTGGCCGTTACCAGTTCCAACGCAGCTAAGCTTCTGAACCTGTATCCCCGCAAGGGCCGCATTATTCCC GGAGACTTCAACCTGTATGAGAACATGCGCTGCCACGGCGTGCCACTGGTCACCATCAGCCGGGGGGCGCGTCGTG TATGAGAACGGCGTCTTCATGTGCGCCGAGGGCACCGGCAAGTTCTGTCCCCTGAGGTCCTTCCCAGACACTGTC TACAAGAAGCTGGTCCAGAGAGAGAAGACTTTAAAGGTTAGAGGAGTGGACCGCACTCCCTACCTGGGGGATGTC GCTGTTGTCGTGCACCCTGGGAAAAAAGAGATGGGAACCCCACTCGCAGACACTCCTACCCGGCCCGTCACCCGG CATGGGGGCATGAGGACCTTCACGAATCCAGCTTCAGCCTCTCTGGCTCTCAGATCGATGACCATGTTCCAAAG CGAGTGAGGACGCACCGCCACCAGCCGCAACTCTCCAGCCGAAGCTGCAGGGGCAGGAGAGGCTGGGCTGG GAGCCAACTCTAACAGGCACTTTGAGATGTGTTCCTCCTGCTGTAGTCCTTTCTGCCTTGGCCTCGGCGGGCTTT TCTGGGGCCCAGGAAGCCCACACTATGCACAGAGCCCAATGCATAGAGCCCTGGCCAGCCCTTCCTCACTCCT GCCTCCGCTGGCTTTGGGAAAGCCCAGACTTTAGTGCCCTGCCCCCTGGCTGACTGGCCAGTTGCCCAGAGCACT TTAGCAGATGTGGTTTCAAAGTAAAGGCCTCCTCCCCCACCCCTTAGGCCCCGTGGTGACATTTCCCAAGTCAGA CAGATGTCAGCTTCCCAGCCATGCCCAGGACGTCCTATCTCCCCCAACCCACCTCTGGCCCTGTGTAGGGGCAGG AGGCCCAGAAGGGTAGCTGGGCGGGGCTCGAGGCTGGTGCCAGGCGCGTGTAAATGGTTTTGTTTTGCACGTTTG GTTTGCGCAGTAGTTTGGTTTGACTTGTTGTGCATCCTGTGAAAAATAACGGTGCTTGTGTCACTAGCATAGAA GGAGGGGGCTGGCCTCACAGGCCTCTCTTTCCCCGCCTGCAGTCTTCTGGGCTGCGGGAGGCCCTGGCCCTTTC CCCTTCCCCTCCTTGTCTAGTTTCCCACATTCCAAAAGGGGGCCTGGGATGCTAGCCCCAGAGATGCCAG CCCTTCAGGAAGCAGGTGTCCTTTCCCCTCTCTGCCCCTGATCACTCCCAGCACTCCCCTTGCCTTCCCCTGTCT GACAGAGACTCAGCGCTCCTCCTGTGTGACTGGCAAGAGGCCTCATGCCTGAGAGAGGGGTCGACGCGGCCG

MLANSASVRILIKGGKVVNDDCTHEADVYIENGIIQQVGRELMIPGGAKVIDATGKLVIPGGIDTSTHFHQTFMN ATCVDDFYHGTKAALVGGTTMIIGHVLPDKETSLVDAYEKCRGLADPKVCCDYALHVGITWWAPKVKAEMETLVR EKGVNSFQMFMTYKDLYMLRDSELYQVLHACKDIGAIARVHAENGELVAEGAKEALDLGITGPEGIEISRPEELE AEATHRVITIANRTHCPIYLVNVSSISAGDVIAAAKMQGKVVLAETTTAHATLTGLHYYHQDWSHAAAYVTVPPL RLDTNTSTYLMSLLANDTLNIVASDHRPFTTKQKAMGKEDFTKIPHGVSGVQDRMSVIWERGVVGGKMDENRFVA VTSSNAAKLLNLYPRKGRIIPGADADVVVWDPEATKTISASTQVQGGDFNLYENMRCHGVPLVTISRGRVVYENG VFMCAEGTGKFCPLRSFPDTVYKKLVQREKTLKVRGVDRTPYLGDVAVVVHPGKKEMGTPLADTPTRPVTRHGGM RDLHESSFSLSGSQIDDHVPKRASARILAPPGGRSSGIW

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CTTGCTCCGAGAGGGAGTCCTCGCGGACGTCAGCCAAGATTCCAGAATGACTATCTTGACTTACCCCTTTAAAAA TCTTCCCACTGCATCAAAATGGGCCCTCAGATTTTCCATAAGACCTCTGAGCTGTTCCTCCCAGCTACGAGCTGC CCCAGCTGTCCAGACCAAAACGAAGAAGACGTTAGCCAAACCCAATATAAAGGAATGTTGTGGTGGTGGATGGTGT TCGCACTCCATTTTTGCTGTCTGGCACTTCATATAAAGACCTGATGCCACATGATTTGGCTAGAGCAGCGCTTAC GGGTTTGTTGCATCGGACCAGTGTCCCTAAGGAAGTAGTTGATTATCATCTTTGGTACAGTTATTCAGGAAGT GAAAACAAGCAATGTGGCTAGAGAGGCTGCCCTTGGAGCTGGCTTCTCTGACAAGACTCCTGCTCACACTGTCAC CATGGCTTGTATCTCTGCCAACCAAGCCATGACCACAGGTGTTGGCTTGATTGCTTCTGGCCAGTGTGATGTGAT CGTGGCAGGTGGTGTTGAGTTGATGTCCGATGTCCCTATTCGTCACTCAAGGAAAATGAGAAAACTGATGCTTGA TCTCAATAAGGCCAAATCTATGGGCCAGCGACTGTCTTTAATCTCTAAATTCCGATTTAATTTCCTAGCACCTGA GCTCCCTGCGGTTTCTGAGTTCTCCACCAGTGAGACCATGGGCCACTCTGCAGACCGACTGGCCGCTGCCTTTGC TGTTTCTCGGCTGGAACAGGATGAATATGCACTGCGCTCTCACAGTCTAGCCAAGAAGGCACAGGATGAAGGACT ACTGGAGCAGATGGCCAAACTAAAACCTGCATTCATCAAGCCCTACGGCACAGTGACAGCTGCAAATTCTTCTTT CTTGACTGATGGTGCATCTGCAATGTTAATCATGGCGGAGGAAAAGGCTCTGGCCATGGGTTATAAGCCGAAGGC ATATTTGAGGGATTTTATGTATGTGTCTCAGGATCCAAAAGATCAACTATTACTTGGACCAACATATGCTACTCC AAAAGTTCTAGAAAAGGCAGGATTGACCATGAATGATATTGATGCTTTTGAATTTCATGAAGCTTTCTCGGGTCA GATTTTGGCAAATTTTAAAGCCATGGATTCTGATTGGTTTGCAGAAAACTACATGGGTAGAAAAACCAAGGTTGG ATTGCCTCCTTTGGAGAAGTTTAATAACTGGGGTGGATCTCTGTCCCTGGGACACCCATTTGGAGCCACTGGCTG CAGGTTGGTCATGGCTGCCAACAGATTACGGAAAGAAGGAGGCCAGTATGGCTTAGTGGCTGCGTGTGCAGC TGGAGGGCAGGCCATGCTATGATAGTGGAAGCTTATCCAAAATAATAGATCCAGAAGAAGTGACCTGAAGTTTC TGTGCAACACTCACACTAGGCAATGCCATTTCAATGCATTACTAAATGACATTTGTAGTTCCTAGCTCCTCTTAG GAAAACAGTTCTTGTGGCCTTCTATTAAATAGTTTGCACTTAAGCCTTGCCAGTGTTCTGAGCTTTTCAATAATC AGTTTACTGCTCTTTCAGGGATTTCTAAGCCACCAGAATCTCACATGAGATGTGTGGGGTGGTTGTTTTTGGTCTC TGTTGTCACTAAAGACTAAATGAGGGTTTGCAGTTGGGAAAGAGGTCAACTGAGATTTGGAAATCATCTTTGTAA TATTTGCAAATTATACTTGTTCTTATCTGTGTCCTAAAGATGTGTTCTCTATAAAATACAAACCAACGTGCCTAA TTAATTATGGAAAAATAATTCAGAATCTAAACACCACTGAAAACTTATAAAAAATGTTTAGATACATAAATATGG

MTILTYPFKNLPTASKWALRFSIRPLSCSSQLRAAPAVQTKTKKTLAKPNIRNVVVVDGVRTPFLLSGTSYKDLM PHDLARAALTGLLHRTSVPKEVVDYIIFGTVIQEVKTSNVAREAALGAGFSDKTPAHTVTMACISANQAMTTGVG LIASGQCDVIVAGGVELMSDVPIRHSRKMRKLMLDLNKAKSMGQRLSLISKFRFNFLAPELPAVSEFSTSETMGH SADRLAAAFAVSRLEQDEYALRSHSLAKKAQDEGLLSDVVPFKVPGKDTVTKDNGIRPSSLEQMAKLKPAFIKPY GTVTAANSSFLTDGASAMLIMAEEKALAMGYKPKAYLRDFMYVSQDPKDQLLLGPTYATPKVLEKAGLTMNDIDA FEFHEAFSGQILANFKAMDSDWFAENYMGRKTKVGLPPLEKFNNWGGSLSLGHPFGATGCRLVMAAANRLRKEGG QYGLVAACAAGGQGHAMIVEAYPK

GGCACGAGGCCACTGCTCTCCTCTCAGCTCAAGATGGTGGCCTGCCGGGCGATTGGCATCCTCAGCCGCTTTTC CCATATTAACTATGGAGTCAAAGGGGATGTGGCAGTTGTTCGAATTAACTCTCCCAATTCAAAGGTAAATACACT CCTTATCTCATCAAAGCCAGGCTGCTTTATTGCAGGTGCTGATATCAACATGTTAGCCGCTTGCAAGACCCTTCA AGAAGTAACACAGCTATCACAAGAAGCACAGAGAATAGTTGAGAAACTTGAAAAGTCCACAAAGCCTATTGTGGC TGCCATCAATGGATCCTGCCTGGGAGGAGGACTTGAGGTTGCCATTTCATGCCAATACAGAATAGCAACAAAAGA CAGAAAAACAGTATTAGGTACCCCTGAAGTTTTGCTGGGGGCCTTACCAGGAGCAGGAGGCACACAAAGGCTGCC CAAAATGGTGGGTGTGCCTGCTTTGGACATGATGCTGACTGGTAGAAGCATTCGTGCAGACAGGGCAAAGAA AATGGGACTGGTTGACCAACTGGTGGAACCCCTGGGACCAGGACTAAAACCTCCAGAGGAACGGACAATAGAATA CCTAGAAGAAGTTGCAATTACTTTTGCCAAAGGACTAGCTGATAAGAAGATCTCTCCAAAGAGAGACAAGGGATT GGTGGAAAAATTGACAGCGTATGCCATGACTATTCCATTTGTCAGGCAACAGGTTTACAAAAAAGTGGAAGAAAA AGTGCGAAAGCAGACTAAAGGCCTTTATCCTGCACCTCTGAAAATAATTGATGTGGTAAAGACTGGAATTGAGCA AGGGAGTGATGCCGGTTATCTCTGTGAATCTCAGAAATTTGGAGAGCTTGTAATGACCAAAGAATCAAAGGCCTT GATGGGACTCTACCATGGTCAGGTCCTGTGCAAGAAGAATAAATTTGGAGCTCCACAGAAGGATGTTAAGCATCT GGCTATTCTTGGTGCAGGGCTGATGGGAGCAGGCATCGCCCAAGTCTCCGTGGATAAGGGGCTAAAGACTATACT TAAAGATGCCACCCTCACTGCGCTAGACCGAGGACAGCAACAAGTGTTCAAAGGATTGAATGACAAAGTGAAGAA GAAAGCTCTAACATCATTTGAAAGGGATTCCATCTTCAGCAACTTGACTGGGCAGCTTGATTACCAAGGTTTTGA AAAGGCCGACATGGTGATTGAAGCTGTGTTTTGAGGACCTTAGTCTTAAGCACAGAGTGCTAAAGGAAGTAGAAGC GGTGATTCCAGATCACTGTATCTTTGCCAGTAACACTCTGCTCTCCCAATCAGTGAAATCGCTGCTGTCAGCAA AAGACCTGAGAAGGTGATTGGCATGCACTACTTCTCCCGTGGACAAGATGCAGCTGCTGGAGATTATCACGAC CGAGAAAACTTCCAAAGACACCAGTGCTTCAGCTGTAGCAGTTGGTCTCAAGCAGGGGAAGGTCATCATTGTGGT TAAGGATGGACCTGGCTTCTATACTACCAGGTGTCTTGCGCCCATGATGTCTGAAGTCATCCGAATCCTCCAGGA AGGAGTTGACCCGAAGAAGCTGGATTCCCTGACCACAAGCTTTGGCTTTCCTGTGGGTGCCGCCACACTGGTGGA TGAAGTTGGTGTGGATGTAGCGAAACATGTGGCGGAAGATCTGGGCAAAGTCTTTGGGGAGCGGTTTGGAGGTGG AAACCCAGAACTGCTGACACAGATGGTGTCCAAGGGCTTCCTAGGTCGTAAATCTGGGAAGGGCTTTTACATCTA TCAGGAGGGTGTGAAGAGGAAGGATTTGAATTCTGACATGGATAGTATTTTAGCGAGTCTGAAGCTGCCTCCTAA GTCTGAAGTCTCATCAGACGAAGACATCCAGTTCCGCCTGGTGACAAGATTTGTGAATGAGGCAGTCATGTGCCT GCAAGAGGGGATCTTGGCCACACCTGCAGAGGGAGACATCGGAGCCGTCTTTGGGCTTGGCTTCCCGCCTTGTCT GGGAGGGCCTTTCCGCTTTGTGGATCTGTATGGCGCCCAGAAGATAGTGGACCGGCTCAAGAAATATGAAGCTGC CTATGGAAAACAGTTCACCCCATGCCAGCTGCTAGCTGACCATGCTAACAGCCCTAACAAGAAGTTCTACCAG**TG** AGCAGGCCTCATGCCTCGCTCAGTCAGTGCACTAACCCCAGCTGCCGGCAGTGCTGGTTCTCCAACAGAGTGGTG TCTAGATTTATCAGAGTAACGAGAAGACAAACTCCGGCACTGGGTTTGCTCCCTGATTAAAGTGCCTTCAGCCAA GACCATCTCCCTCCTGGTGAAGTGTGACTTCGAATTAGTTTGCACTTCCTATTGGAAGGTAGAGCCCACTGCT CATTGTATAAGCCCCGAGGCCTAGAGTGGCAGCCAAGAGCCATCTGAAGCCACCTCTCTGCCTGTTCCTCCCAAG AGGCCAGGGTGGCCAGGGGTGGTGAGGGCAGTTCTGCACCCAGCCAAACACATAACAATAAAAACCAAACTCTGT GTCAGCATCTTTGCCCTTCTGGTTTAAACGCCTCCTTCAAAAAGCAATCTGGAAGAAAGCCCTGTGCTTTGGGGG GCTCAACCACACACCTGTCTGTGCAGATGCTTTGCCCAGGCTTCTCACCACGGTGTACCGGGATATTAAACCT

MVACRAIGILSRFSAFRILRSRGYICRNFTGSSALLTRTHINYGVKGDVAVVRINSPNSKVNTLSKELHSEFSEV
MNEIWASDQIRSAVLISSKPGCFIAGADINMLAACKTLQEVTQLSQEAQRIVEKLEKSTKPIVAAINGSCLGGGL
EVAISCQYRIATKDRKTVLGTPEVLLGALPGAGGTQRLPKMVGVPAALDMMLTGRSIRADRAKKMGLVDQLVEPL
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PLKIIDVVKTGIEQGSDAGYLCESQKFGELVMTKESKALMGLYHGQVLCKKNKFGAPQKDVKHLAILGAGLMGAG
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DLSLKHRVLKEVEAVIPDHCIFASNTSALPISEIAAVSKRPEKVIGMHYFSPVDKMQLLEIITTEKTSKDTSASA
VAVGLKQGKVIIVVKDGPGFYTTRCLAPMMSEVIRILQEGVDPKKLDSLTTSFGFPVGAATLVDEVGVDVAKHVA
EDLGKVFGERFGGGNPELLTQMVSKGFLGRKSGKGFYIYQEGVKRKDLNSDMDSILASLKLPPKSEVSSDEDIQF
RLVTRFVNEAVMCLQEGILATPAEGDIGAVFGLGFPPCLGGPFRFVDLYGAQKIVDRLKKYEAAYGKQFTPCQLL
ADHANSPNKKFYO

766/6881 FIGURE 716A

GCTGGAGGTGGCCTCCCCTCCGCCCCAGACAAGAAGAGGCCCTCAGCCCTCCCCCGGTCTCAGAGAGCCCTGAGA CCGAGGAACCAGGGCTTCTCCGAGCCCGAATACTCGGCCGAGTACTCAGCCGAGTACTCCGTCAGCCTGCCCTCC TTCATGCGGCTGACTTTCGTGCCGGAGTCCTTGGAGAACCTCTACCAGACCTACTTCAAAAGGCAGCGCCACGAG ACCCTGCTGGTGCTGGTGGTCTTTGCAGCCCTCTTTGACTGCTACGTGGTGGTCATGTGTGCTGTGGTCTTCTCC AGCGACAAGCTGGCTTCCCTCGCCGTGGCTGGAATTGGACTGGTGTTGGACATCATCCTCTTCGTGCTCTAAA AAGGGGCTGCTCCCGGACCGGGTCACCCGCAGAGTGCTGCCCTACGTGCTGTGGCTGCTCATAACCGCCCAGATC TTCTCCTACCTGGGCCTGAACTTCGCGCGTGCCCACGCGGCTAGTGACACGGTGGGCTGGCAGGTCTTCTTTGTC TTCTCCTTCTTCATCACGCTGCCCCTCAGCCTCAGCCCCATCGTGATCATCTCCGTGGTCTCCTGTGTGCTGCAC ACGTTGGTCCTGGGGGTCACCGTGGCCCAGCAGCAGCAGGAGGAGCTCAAGGGGATGCAGCTGCTGCGGGAGATC CTGGCCAACGTCTTCCTCTACCTGTGCGCCATCGCTGTGGGCATCATGTCCTACTACATGGCTGACCGCAAGCAC CGCAAGGCCTTCCTGGAGGCCCGCCAGTCGCTGGAGGTGAAGATGAACCTGGAAGAGCAGAGCCAGCAGCAGGAG AAGGACCAGCAGCAGTTCAACACCATGTACATGTACCGTCACGAGAACGTCAGCATCCTCTTTGCCGACATCGTG GGCTTTACCCAGCTGTCTTCTGCCTGCAGTGCCCAGGAGCTTGTGAAGCTGCTCAACGAGCTCTTTGCCCGCTTT GACAAGCTGGCAGCTAAATACCACCAGCTGCGGATTAAGATCCTGGGCGACTGCTACTACTGCATCTGCGGCTTG CCCGACTACCGGGAGGACCACGCCGTCTGCTCCATCCTCATGGGGCCCATGGTGGAGGCCATCTCGTATGTG CGGGAGAAGACCAAGACTGGGGTGGACATGCGTGTGGGGGGTGCACACGGGCACCGTGCTGGGGGGGCGTCCTGGGC CAGAAGCGCTGGCAGTACGACGTGTGGTCGACTGATGTCACTGTAGCCAACAAGATGGAGGCCGGCGGCATCCCT GGGCGCGTGCACATCTCCCAGAGCACCATGGACTGCCTGAAAGGGGAGTTTGATGTGGAGCCAGGCGATGGGGGC ACAGCCACCCAGAATGGCCTCAATGGCTCGGCCCTGCCCAATGGAGCACCAGCTTCCTCAAAGTCCAGCTCCCCT GCCCTCATTGAGACCAAGGAGCCCAACGGGAGTGCCCACAGCAGTGGGTCCACGTCGGAGAAGCCCGAGGAGCAG GATGCCCAGGCCGACAACCCCTCATTCCCCAACCCACGCCGGAGGCTGCGCCTGCAGGACCTGACCGAGTG GTGGATGCCTCTGAAGATGAGCACGAGCTCAACCAGCTGCTCAACGAGGCCCTGCTTGAGCGAGAGTCCGCCCAA GTGTAAAGAAGAAAACACCTTCCTCTTGTCCATGCGGTTCATGGACCCCGAGATGGAAACCCGCTACTCGGTGG AGAAGGAGAAGCAGAGTGGGGCTGCCTTCAGCTGCTCCTGCGTCGTCTGCTCTGCACGGCCCTGGTCGAGATAC TCATCGACCCCTGGCTAATGACAAACTATGTGACCTTCATGGTGGGGGAGATTCTGCTCCTCATCCTGACCATCT GCTCCCTGGCTGCCATCTTTCCCCGGGCCTTTCCTAAGAAGCTTGTGGCCTTCTCAACTTGGATTGACCGGACCC GCTGGGCCAGGAACACCTGGGCCATGCTCGCCATCTTCATCCTGGTGATGGCAAATGTCGTGGACATGCTCAGCT GTCTCCAGTACTACACGGGACCCAGCAATGCAACGGCAGGGATGGAAACGGAGGGCAGCTGCCTGGAGAACCCCA AGTATTACAACTATGTGGCCGTGCTGTCCCTCATCGCCACCATCATGCTGGTGCAGGTCAGCCACATGGTGAAGC TCACGCTCATGCTGCTCGCCAGGCGCCGTGGCCACCATCAACCTCTATGCCTGGCGTCCCGTCTTTGATGAAT ACGACCACAAGCGTTTTCGGGAGCACGACTTACCTATGGTGGCCTTAGAGCAGATGCAAGGATTCAACCCTGGGC TCAATGGCACTGACAGGCTGCCCTGGTGCCTTCCAAGTACTCTATGACGGTGATGGTGTTCCTCATGATGCTCA GCTTCTACTACTTCTCCCGCCACGTAGAAAAACTGGCACGGACACTTTTCTTGTGGAAGATTGAGGTCCACGACC AGAAGGAACGTGTCTATGAGATGCGACGCTGGAACGAGGCCTTGGTCACCAACATGTTGCCTGAGCACGTGGCAC GCCATTTCCTGGGGTCCAAGAAGAGAGAGATGAGGAGCTGTATAGCCAGACGTATGATGAGATTGGAGTCATGTTTG CCTCCCTGCCCAACTTTGCTGACTTCTACACAGAGGAGGAGCATCAACAATGGTGGTATTGAGTGTCTGCGTTTCC TCAATGAAATCATCTCAGATTTTGACTCTCCTGGACAATCCCAAGTTCCGGGTGATCACCAAGATCAAAACCA TTGGCAGCACGTATATGGCGGCTTCAGGAGTCACCCCCGATGTCAACACCAATGGCTTTGCCAGCTCCAACAAGG AAGACAAGTCCGAGAGAGGGCGCTGGCAGCACCTGGCTGACCTGGCCGACTTCGCGCTGGCCATGAAGGATACGC TCACCAACATCAACAACCAGTCCTTCAATAACTTCATGCTGCGCATAGGCATGAACAAAGGCGGGGTTCTGGCTG GGGTCATCGGAGCCCGGAAACCACACTACGACATCTGGGGCAATACAGTCAATGTAGCCAGCAGGATGGAGTCCA ${\tt CGGGGGTCATGGGCAACATTCAGGTATGTCCAGTGGCACAGCTGGCACGTGCTCAGACTCGGCATGAGAACAAAA}$ CCGGAACAGTGCTTTCCCACGTGCCCCTGCCTCCCACCCTGGCCCTGAACAGTAAGTCCAGAGGCAGAGACGTGG GGCAAGTGGAAAAGAATCTCTGCAATAGCTAGCCTCAGCACAGGAAGAAACACTTCCACCCATCCACAAAATCTG

767/6881 FIGURE 716B

PCT/US2003/028547

768/6881 FIGURE 717

GCCGCGGCACCAGGGCGCGGCCGGGCCCGACCCCACCGGCCATACGGTGGAGCCATCGAAGCCCCCACC CACAGGCTGACAGAGGCCACCGTTCACCAGAGGGCTCAACACCGGGATCTATGTTTAAGTTTTAACTCTCGCCTCC AAAGACCACGATAATTCCTTCCCCAAAGCCCAGCAGCCCCCAGCCCCGCGCAGCCCCAGCCTCCCGGCGC $\texttt{CCAG} \underline{\textbf{ATG}} \texttt{CCCGCCATGCCCTCCAGCGGCCCCGGGGACACCAGCAGCTCTGCTGCGGAGCGGGAGGAGGACCGAAA}$ GGACGGAGAGGAGCAGGAGGAGCCGCGTGGCAAGGAGGAGCCCCAAGAGCCCCAGCACCACGGCACGGAAGGTGGG GCGGCCTGGGAGGAAGCGCAAGCACCCCCCGGTGGAAAGCGGTGACACGCCAAAGGACCCTGCGGTGATCTCCAA GTCCCCATCCATGGCCCAGGACTCAGGCGCCTCAGAGCTATTACCCAATGGGGACTTGGAGAAGCGGAGTGAGCC CCAGCCAGAGGAGGGGAGCCCTGCTGGGGGGGCAGAAGGGGGGGCCCCAGCAGAGGGAGAGGGTGCAGCTGAGAC CCTGCCTGAAGCCTCAAGAGCAGTGGAAAATGGCTGCTGCACCCCCAAGGAGGCCCGAGGAGCCCCTGCAGAAGC GGGCAAAGAACAGAAGGAGACCAACATCGAATCCATGAAAATGGAGGGCTCCCGGGGCCGGCTGCGGGGTGGCTT GGGCTGGGAGTCCAGCCTCCGTCAGCGGCCCATGCCGAGGCTCACCTTCCAGGCGGGGGACCCCTACTACATCAG CAAGCGCAAGCGGGACGAGTGGCTGGCACGCTGGAAAAGGGAGGCTGAGAAAAGCCAAGGTCATTGCAGGAAT GAATGCTGTGGAAGAAAACCAGGGGCCCGGGGAGTCTCAGAAGGTGGAGGAGGCCAGCCCTCCTGCTGTGCAGCA GCCCACTGACCCCGCATCCCCCACTGTGGCTACCACGCCTGAGCCCGTGGGGTCCGATGCTGGGGACAAGAATGC ACTGCGGGGCTTCTCCTGGTGGCCAGGCCGCATTGTGTCTTGGTGGATGACGGGCCGGAGCCGAGCAGCTGAAGG GTTTTGCAGTGCGTTCCACCAGGCCACGTACAACAAGCAGCCCATGTACCGCAAAGCCATCTACGAGGTCCTGCA GGTGGCCAGCAGCCGCGCGGGAAGCTGTTCCCGGTGTGCCACGACAGCGATGAGAGTGACACTGCCAAGGCCGT GGAGGTGCAGAACAAGCCCATGATTGAATGGGCCCTGGGGGGGCTTCCAGCCTTCTGGCCCTAAGGGCCTGGAGCC ACCACCTCCACCAGCCAAAAAGCCCCGGAAGAGCACAGCGGAGAAGCCCCAAGGTCAAGGAGATTATTGATGAGCG CACAAGAGAGCGGCTGGTGTACGAGGTGCGGCAGAAGTGCCGGAACATTGAGGACATCTGCATCTCCTGTGGGAG CCTCAATGTTACCCTGGAACACCCCCTCTTCGTTGGAGGAATGTGCCAAAACTGCAAGAACTGCTTTCTGGAGTG TGCGTACCAGTACGACGACGACGGCTACCAGTCCTACTGCACCATCTGCTGTGGGGGCCCGTGAGGTGCTCATGTG AGCCATTAAGGAAGACCCCTGGAACTGCTACATGTGCGGGCACAAGGGTACCTACGGGCTGCTGCGGCGGCGAGA GGACTGGCCCTCCCGGCTCCAGATGTTCTTCGCTAATAACCACGACCAGGAATTTGACCCTCCAAAGGTTTACCC ACCTGTCCCAGCTGAGAAGAGGAAGCCCATCCGGGTGCTGTCTCTCTTTGATGGAATCGCTACAGGGCTCCTGGT GCTGAAGGACTTGGGCATTCAGGTGGACCGCTACATTGCCTCGGAGGTGTGTGAGGACTCCATCACGGTGGGCAT GGTGCGGCACCAGGGGAAGATCATGTACGTCGGGGACGTCCGCAGCGTCACAGAAGCATATCCAGGAGTGGGG ${\tt CCCATTCGATCTGGTGATTGGGGGCAGTCCCTGCAATGACCTCTCCATCGTCAACCCTGCTCGCAAGGGCCTCTA}$ CCCCTTCTTCTGGCTCTTTGAGAATGTGGTGGCCATGGGCGTTAGTGACAAGAGGGACATCTCGCGATTTCTCGA GTCCAACCCTGTGATGATTGATGCCAAAGAAGTGTCAGCTGCACACAGGGCCCGCTACTTCTGGGGTAACCTTCC CGGTATGAACAGGCCGTTGGCATCCACTGTGAATGATAAGCTGGAGCTGCAGGAGTGTCTGGAGCATGGCAGGAT AGCCAAGTTCAGCAAAGTGAGGACCATTACTACGAGGTCAAACTCCATAAAGCAGGGCAAAGACCAGCATTTTCC TGTCTTCATGAATGAGAAAGAGGACATCTTATGGTGCACTGAAATGGAAAGGGTATTTGGTTTCCCAGTCCACTA TACTGACGTCTCCAACATGAGCCGCTTGGCGAGGCAGAGACTGCTGGGCCGGTCATGGAGCGTGCCAGTCATCCG **AAGTT**

MPAMPSSGPGDTSSSAAEREEDRKDGEEQEEPRGKEERQEPSTTARKVGRPGRKRKHPPVESGDTPKDPAVISKS PSMAQDSGASELLPNGDLEKRSEPQPEEGSPAGGQKGGAPAEGEGAAETLPEASRAVENGCCTPKEGRGAPAEAG KEQKETNIESMKMEGSRGRLRGGLGWESSLRQRPMPRLTFQAGDPYYISKRKRDEWLARWKREAEKKAKVIAGMN AVEENQGPGESQKVEEASPPAVQQPTDPASPTVATTPEPVGSDAGDKNATKAGDDEPEYEDGRGFGIGELVWGKL RGFSWWPGRIVSWWMTGRSRAAEGTRWVMWFGDGKFSVVCVEKLMPLSSFCSAFHQATYNKQPMYRKAIYEVLQV ASSRAGKLFPVCHDSDESDTAKAVEVQNKPMIEWALGGFQPSGPKGLEPPEEEKNPYKEVYTDMWVEPEAAAYAP PPPAKKPRKSTAEKPKVKEIIDERTRERLVYEVRQKCRNIEDICISCGSLNVTLEHPLFVGGMCQNCKNCFLECA YQYDDDGYQSYCTICCGGREVLMCGNNNCCRCFCVECVDLLVGPGAAQAAIKEDPWNCYMCGHKGTYGLLRRRED WPSRLQMFFANNHDQEFDPPKVYPPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQVDRYIASEVCEDSITVGMV RHQGKIMYVGDVRSVTQKHIQEWGPFDLVIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRP FFWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAAHRARYFWGNLPGMNRPLASTVNDKLELQECLEHGRIA KFSKVRTITTRSNSIKQGKDQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLGRSWSVPVIRH LFAPLKEYFACV

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TCGTCGGCTGGTTCTGCCAGTCTTCGGGGTGCTCTGGATCACGGTGCTGCTGTTCTTCTGGGTAACCAAGAGGAA GTTGGAGGTGCCGACGGGACCTGAAGTGCAGACCCCTAAGGTTTGGTCCTTGTTTTTCAAGGTGGCTGGGATGAG $\tt CCCTTGGGCGCCTCAGGTGCCTGTATCACCCACTCCTCCCTACCAAAGAGGGCATCTTCCTACAGGAGGACACCT$ ATGCACACTGCTGGTGTATTGCACGGACCTTCCACCCACTAGCATCATCATCACCTTCCACAACGAGGCCCGCTC CACGCTGCTCAGGACCATCCGCAGTGTATTAAACCGCACCCCTACGCATCTGATCCGGGAAATCATATTAGTGGA TGACTTCAGCAATGACCCTGATGACTGTAAACAGCTCATCAAATTGCCCCAAGGTGAAATGCTTGCGCAATAATGA ACGGCAAGGTCTGGTCCGGTCCCGGATTCGGGGCGCTGACATCGCCCAGGGCACCACTCTGACTTTCCTCGACAG CCACTGTGAGGTGAACAGGGACTGGCTCCAGCCTCTGTTGCACAGGGTCAAAGAGGACTACACGCGGGTGGTGTG CCCTGTGATCGATATCATTAACCTGGACACCTTCACCTACATCGAGTCTGCCTCGGAGCTCAGAGGGGGGTTTGA CTGGAGCCTCCACTTCCAGTGGGAGCAGCTCTCCCCAGAGCAGAAGGCTCGGCGCCTGGACCCCACGGAGCCCAT CAGGACTCCTATCATAGCTGGAGGGCTCTTCGTGATCGACAAAGCTTGGTTTGATTACCTGGGGAAATATGATAT GGACATGGACATCTGGGGTGGGGAGAACTTTGAAATCTCCTTCCGAGTGTGGATGTGCGGGGGGCAGCCTAGAGAT CGTCCCCTGCAGCCGAGTGGGGCACGTCTTCCGGAAGAAGCACCCCTACGTTTTCCCTGATGGAAATGCCAACAC ATTCGCCCTGGAGAGGCCCTTCGGGAATGTTGAGAGCAGATTGGACCTGAGGAAGAATCTGCGCTGCCAGAGCTT ACAGAGACAGAAGTGCCTGGAATCTCAAAGGCAGAACAACCAAGAAACCCCAAACCTAAAGTTGAGCCCCTGTGC CAAGGTCAAAGGCGAAGATGCAAAGTCCCAGGTATGGGCCTTCACATACACCCAGCAGATCCTCCAGGAGGAGCT GTGCCTGTCAGTCATCACCTTGTTCCCTGGCGCCCCAGTGGTTCTTGTCCTTTGCAAGAATGGAGATGACCGACA GCAATGGACCAAAACTGGTTCCCACATCGAGCACATAGCATCCCACCTCTGCCTCGATACAGATATGTTCGGTGA GAGCTCT<u>TGA</u>GGACCCCTGCCAGAAGCAGCAAGGGCCATGGGGTGGTGCTTCCCTGGACCAGAACAGACTGGAAA CTGGGCAGCAGCAGCCTGCAACCACCTCAGACATCCTGGACTGGGAGGTGGAGGCAGAGCCCCCCAGGACAGGA GCAACTGTCTCAGGGAGGACAGAGGAAAACATCACAAGCCAATGGGGCTCAAAGACAAATCCCACATGTTCTCAA GGCCGTTAAGTTCCAGTCCTGGCCAGTCATTCCCTGATTGGTATCTGGAGACAGAAACCTAATGGGAAGTGTTTA ACATTGAGAGATGAAGAATGGAGGTTGTTTCCAAAAGAAATAAAGAGAAACTTAGAAGTTGTCTCTGG

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TGGHLAVCHFPCLLQEAQFHLQTQVFLQVRCTLLVYCTDLPPTSIIITFHNEARSTLLRTIRSVLNRTPTHLIRE
IILVDDFSNDPDDCKQLIKLPKVKCLRNNERQGLVRSRIRGADIAQGTTLTFLDSHCEVNRDWLQPLLHRVKEDY
TRVVCPVIDIINLDTFTYIESASELRGGFDWSLHFQWEQLSPEQKARRLDPTEPIRTPIIAGGLFVIDKAWFDYL
GKYDMDMDIWGGENFEISFRVWMCGGSLEIVPCSRVGHVFRKKHPYVFPDGNANTYIKNTKRTAEVWMDEYKQYY
YAARPFALERPFGNVESRLDLRKNLRCQSFKWYLENIYPELSIPKESSIQKGNIRQRQKCLESQRQNNQETPNLK
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GGTGTTCACTCAACTTGGATCTGTGCTGAAAAATTGTGACATTTCAGTACATCTGGTAGAGGGTACAGCTTTTAT CTTGCACATGAATTTTTTGATGTTCTTCCTGTGCATAAATTTCAGAAAACACCACAGGGATGGCGAGAAGTATTT ATACAACATGACGAAACAAGGGATCATGTTGAAGTGTGTCCTGATGCTGGTGTTATCATCGAGGAACTTTCTCAA $\tt CGCATTGCATTAACTGGAGGTGCTGCACTGGTTGCTGATTATGGTCATGATGGAACAAAGACAGATACCTTCAGA$ GGGTTTTGCGACCACAAGCTTCATGATGTCTTAATTGCCCCAGGAACAGCAGATCTAACAGCTGATGTGGACTTC ${\tt AGTTATTTGCGAAGA} \underline{{\tt ATG}} {\tt GCACAGGGAAAAGTAGCCTCTCTGGGCCCAATAAAACAACACACATTTTTAAAAAAT$ ATGGGTATTGATGTCCGGCTGAAGGTTCTTTTAGATAAATCAAATGAGCCATCAGTGAGGCAGCAGTTACTTCAA CTTCAAGGTGGAAGATATCAGAGGAATGCACGTCAGTCAAAACCCTTTGCATCCGTTGTAGCTGGGTTTAGTGAA $\tt CTTGCTTGGCAG{\color{red}{TGA}}{TGA}{TATTTCAGCTTGGACATTTTACCCTTCAGTCGGCCCAAGAAATCAAAATAAAGGAAACAC$ ATTTCATATACTGCAGGTAACAAAAGTCAAAGTATTTTATCTTTTCACAGCAAGAACAGTCCATGTTGTATATAA TACAACCAACATTATAGAACTTTTAGGGTTGTGACTGGCTTTGGTGCAAATGTGTGCTCAAGCTAATAAGTTATT GTGAAACTGAGTTTCCTTTAACTTACAAAGCTAGTTGCCATATTTCTATTTTATATTTAAAAAGTAAACATGCGGC TGGGCGTGGTGGCTCATGCCTGTAATCCCAGCACTTTGGGAGGCTGAGGTGGGCATATCACCTGAGGTCAGCAGT TÄÄÄGACCAGCCTGACCAÄÄÄTGGAGAÄÄCCCCATCTCTACTAÄÄÄÄTACAÄÄACTAGCCGGGTÄTGGTGGTACA TGCCTGTAATCCCAGC

 ${\tt MAQGKVASLGPIKQHTFLKNMGIDVRLKVLLDKSNEPSVRQQLLQGYDMLMNPKKMGERFNFFALLPHQRLQGGR} \\ {\tt YQRNARQSKPFASVVAGFSELAWQ}$

MPREDRATWKSNYFLKIIQLLDDYPKCFIVGADNVGSKQMQQIRMSLRGKVVVLMGKNTMMRKAIRGHLENNPAL EKLLPHIWGNVGFVFTKEDLTEIRDMLLANKVPAAARAGAIAPCEVTVPAQNTGLGPEKTSFFQALGITTKISRG TIEILSDVQLIKTGDKVGASEATLLNMLNISPFSFGLVIQQVFDNGSIYNPEVLDKTEETLHSRFLEGVRNVASV CLQTGYPTVASVPHSIINGYKRVLALSVETDYTFPLAENVKAFLADPSAFVAAAPVAADTTAAPAAAAAPAKVEA KEESEESDEDMGFGLFD

GTCTTTAAACCCTGCGTGGCAATCCCTGACGCACCGCCGTGATGCCCAGGGAAGACAGGGCGACCTGGAAGTCCA
ACTACTTCCTTAAGATCATCCAACTATTGGATGATTATCCAAAATGTTTCATCGTGGGAGCAGACAATGTGGGCT
CCAAGCAGATGCAGCAGATCCGCATGTCCCTTCGCGGGAAGGTCGTGGTGCTGATGGGCAAGAACACCCATGATGC
GCAAGGCCATCCGAGGGCACCTGGAAAACAACCCAGCTCTGGAGAAACTGCTGCCTCATATCTGGGGGAATGTGG
GCTTTGTGTTCACCAAGGAGGACCTCACTGAGATCAGGGACATGTTGCTGGCCAATAAGGTGCCAGCTGCTCCC
GTGCTGGTGCCATTGCCCCATGTGAAGTCACTGTGCCAGCCCAGAACACTGGTCTCGGGCCCGAGAAGACCTCCT
TTTTCCAGGCTTTAGAGTGATGTGCAGCTGATCAAGACTGGAGACAAAGTGGGAGCCACGCAGCTGCTG
AACATGCTCAACATCTCCCCCTTCTCCTTTGGGCTGGTCATCCAGCAGGTATTCGACAATGGCAGCATCTACAAC
CCTGAAGTGCTTGATAAAACAGAGGGAAACTCTGCATTCTCGCTTCCTGGAGGGTGTCCGCAATGTTGCCAGTGTC
TGTCTGCAGACTGGCTACCCAACTGTTGCATCAGTACCC

CTGCGTGGCAATCCCTGACGCACCGCCGTGATGCCCAGGGAAGACAGGGCGACCTGGAAGTCCAACTACTTCCTT
AAGATCATCCAACTATTGGATGATTATCCAAAATGTTTCATCGTGGGAGCAGACAATGTGGGCTCCAAGCAGATG
CAGCAGATCCGCATGTCCCTTCGCGGGAAGGTCGTGGTGCTGATGGGCAAGAACACCATGATGCGCAAGGCCATC
CGAGGGCACCTGGAAAACAACCCAGCTCTGGAGAAACTGCTGCCCCATATCTGGGGGAATGTGGGCTTTGTGTTC
ACCAAGGAGGACCTCACTGAGATCAGGGACATGTTGCTGGCCAATAAGGTGCCAGCTGCTGCCCGTGCTGGTGCC
ATTGCCCCATGTGAAGTCACTGTGCCAGCCCAGAACACTGGTCTCGGGCCCGAGAAGACCTCCTTTTTCCAGGCT
TTAGGTATCACCACTAAAATCTCCAGGGGCACCATTGAAATCCTGACAGGTATTCGACAATGGCAGCATCTACAA
CCCTGAAGTGCTTGATAAAAACAGAGGAAACTCTGCATTCTCCGCTTCCTGGAGGGTTCCGCAATGTTGCCAGTGT
CTGTCTGCAGACTGGCTACCCAACTGTTGCATCAGTACCCCATTCTATCATCAACGGGTACAAACGAGTCCTGGC

 $\tt CCTCTAGCTTAGCGAGCGCTGGAGTTTGAAGAGCGGGCAGTGGCTGCACACGCCAAACTTTCCCT{\color{red} \underline{ATG}} GCTTCGG$ TGACCAGGGCCGTGTTTGGAGAGCTGCCCTCGGGAGGAGGGACAGTGGAGAAGTTCCAGCTGCAGTCAGACCTCT ACGTGGTGCTTGGCCTGGCAGTTGGAAGGATACCTCCAAAAGCAGCCATACTTTGGAGCAGTTATTGGGAGGG TGGCCAACCGAATCGCCAAAGGAACCTTCAAGGTGGATGGGAAGGAGTATCACCTGGCCATTAACAAGGAACCCA ACAGTCTGCATGGAGGAGTCAGAGGGTTTGATAAAGTGCTCTGGACCCCTCGGGTGCTGAAATGGCGTCCAGT TCAACCTGGCAGGCCAGGCTTCCCCAAATATAAATGACCATGAAGTCACCATAGAAGCGGATACTTATTTGCCTG TGGATGAAACCCTGATTCCTACAGGAGAAGTTGCCCCAGTGCAAGGCACTGCATTCGACCTGAGAAAGCCAGTGG AGTTTTACACGGGCAACTTCCTGGATGGCACATTAAAGGGCAAGAATGGAGCTGTCTATCCCAAGCACTCCGGTT TCTGCCTGGAGACTCAGAACTGGCCTGATGCAGTCAATCAGCCCCGCTTCCCTCCTGTGCTGAGGCCTGGTG ${\tt AGGAGTATGACCACCACCTGGTTCAAGTTTTCTGTGGCT}{{\tt TAAG}{\tt GAAGTGTGAAGATATGATCCAGTCCAGGGC}}$ TAGGCTCAGCCACCTGTCTCCTGTCCAGAAAAAAGGTGAAGATTAAGAAGCTTTCAGAATGATTCTATGGATTAA AATCATACAAATGGTGGCTGTTCTGAGAATCAGTCTGGGTATTGATTTCCTTTTCCAGTGACTGGCTCCAGGCCA GCCCTTCCTTTCTTTAAAGCTATTCTCACATTGCTTTTATTTCCTCCTCCTTCACCTCCAACCACTGTCAGCAGC ACTCTGGAGTTTTCAAATGTCACATTAGCCTCACCCTGCATGCTAGGAGATGGACCTGTCTCTATACAGCAGTAG TTCCAGCTACTTGGGAGGCTGAAGCAGGAGAATCGCTTGAACCTGGGAGGTGGAGGTTGCAGTGAGCCGAGATCA

MASVTRAVFGELPSGGGTVEKFQLQSDLLRVDIISWGCTITALEVKDRQGRASDVVLGFAELEGYLQKQPYFGAV IGRVANRIAKGTFKVDGKEYHLAINKEPNSLHGGVRGFDKVLWTPRVLSNGVQFSRISPDGEEGYPGELKVWVTY TLDGGELIVNYRAQASQATPVNLTNHSYFNLAGQASPNINDHEVTIEADTYLPVDETLIPTGEVAPVQGTAFDLR KPVELGKHLQDFHLNGFDHNFCLKGSKEKHFCARVHHAASGRVLEVYTTQPGVQFYTGNFLDGTLKGKNGAVYPK HSGFCLETQNWPDAVNQPRFPPVLLRPGEEYDHTTWFKFSVA

GCCGCCACCTTGCTAAACCTATAAGCTTTTTAAAATCCAATATATTCTGCCAAGAATATGCCTTGATAGTTAGCC CTCAGCCCATAGGTGTTTTTTTTTTTTTTAACAGAATTATATATGTCTGGGGGTGAAAAAACCCTTGCATTCCAAA GGTCCATACTGGTTACTTGGTTTCATTGCCACCACTTAGTGGATGTTCAGTTTAGAACCATTTTGTCTGCTCCCT $\tt CTGGAAGCCTTGCGCAGAGCTTACTTTGTAATTGTTGGAGAATAACTGCTGAATTTTTAGCTGTTTTGAGT{\color{red} \bf TGAC} {\color{blue} \bf TGAC}$ ATTTTGTTCATACTGTATTTATCAAGTATGATAAAGCAATAGATATATTATTTTTTTATTATGTTAAATTATGA TTGCCATTATTAATCGGCAAAATGTGGAGTGTATGTTCTTTTCACAGTAATATATGCCTTTTGTAACTTCACTTG CCTTGTTTACGTAAATTTTGAAAGATTGCATGATTTCTTGACAGAAATCGATCTTGATGCTGTGGAAGTAGTTTG AGGAACATCCTATGAGTTTTCTTAGAATGTATAAAGGTTGTAGCCCATCCAACTTCAAAGAAAAAAATGACCACA TACTTTGCAATCAGGCTGAAATGTGGCATGCTTTTCTAATTCCAACTTTATAAACTAGCAAAAAAGTGTTTGCTT CAGTGCCTTTGGAAGGGCCCGAACTTGCCTTAAATCTTCCTCAACCAAATAAGTATTTTATTAGTGCTTGAGAGA ATCTGAATGTAGGATGGGTTCAACTGCACAAAAGGAAAAGATTTTTACCACTTTTTTTATATAGATATAAAGTGA GCAGATGAATGAGCGGTAGCTTTAGTTTGTACGTAGGTACAGTTGGAGCACTATATGTACTCTCTGGACTACTTT GGACAGAAGTAGGTTTTTGAATGTAACAAGATAAGTCAACTTGAGTTGTAATATTTTTTGGGGAATCAGCTCACT ACAAATTGTGACTGTAAACATTGTACTGTAAATGTTTTGTAGTT

 ${\tt MWEPFSWKKFLIVSQTGVNKPASRHLAKPISFLKSNIFCQEYALIVSPQPIGVFCFLTELYMSGGEKTLAFQRSILVTWFHCHHLVDVQFRTILSAPSGSLAQSLLCNCWRITAEFLAVLS}$

CCTGATTCTAGGCTGGTCACTACTCCGAGCCTGTGACGTTTGCGGCAGCCAGGCCGTCGACGATGCCCAGTGAAA CTCTCTGGGAAATTGCAAAAGCTGAAGTGGAAAAAAGGGGGAATTAATGGAAGTGAAGGTGATGGAGCTGAAATTG CAGAAAAATTTGTTTTCTTCATTGGCAGTAAAAATGGGGGAAAGACTACTATTATTCTAAGGTGTCTTGACAGAG ATGAACCACCAAAACCAACCTTAGCTTTGGAATATACATATGGAAGAAGAGCAAAAAGGGCACAACACCAAAAAG ATATCGCTCACTTTTGGGAACTCGGTGGAGGAACCTCTTTATTGGACTTAATCAGCATACCCATCACAGGTGACA CCTTACGGACGTTTTCTCTTGTTCTCGTTCTGGATCTTTCAAAACCTAATGATCTCTGGCCCACCATGGAAAATC TCTTGCAAGCCACAAAAAGCCATGTAGACAAAGTGATAATGAAACTGGGAAAGACAAATGCTAAAGCAGTTTCTG CTCTGGTCATAATTGGAAGTAAATATGATGTTTTTCAGGATTTTGAGTCTGAGAAGAGAAAGGTAATATGCAAGA CACTTCGATTTGTTGCACATTATTATGGAGCATCATTAATGTTTACCAGTAAATCAGAAGCTCTATTACTAAAAA TACGTGGAGTTATCAACCAGTTGGCATTTGGCATTGACAAAAGCAAATCAATATGTGTGGATCAGAATAAACCGC TGTTTATCACAGCAGGATTGGATTCTTTCGGTCAAATAGGATCTCCTCCTGTTCCTGAAAATGACATTGGAAAGC TTCATGCCCACTCACCTATGGAGTTGTGGAAAAAAGTGTATGAAAAGCTCTTTCCACCAAAGAGTATTAACACGC TGAAAGATATCAAGGACCCTGCGAGAGATCCTCAGTATGCTGAAAATGAAGTCGATGAGATGAGAATTCAGAAGG TCAATTATTGTATATTTTCTTCTTTTTCCAAATACAAATAAGATTATACTGTGAATTAACTATTGTGGCAATA TGTGAAGAAAGTTAAACTGTATAATTTGTTAAAGGACAAGCTGGATTTCTTGGACTAGTGCATCTCCCTGTATAT CCTACCTCT

MPSETLWEIAKAEVEKRGINGSEGDGAEIAEKFVFFIGSKNGGKTTIILRCLDRDEPPKPTLALEYTYGRRAKGH NTPKDIAHFWELGGGTSLLDLISIPITGDTLRTFSLVLVLDLSKPNDLWPTMENLLQATKSHVDKVIMKLGKTNA KAVSEMRQKIWNNMPKDHPDHELIDPFPVPLVIIGSKYDVFQDFESEKRKVICKTLRFVAHYYGASLMFTSKSEA LLLKIRGVINQLAFGIDKSKSICVDQNKPLFITAGLDSFGQIGSPPVPENDIGKLHAHSPMELWKKVYEKLFPPK SINTLKDIKDPARDPQYAENEVDEMRIQKDLELEQYKRSSSKSWKQIELDS

784/6881 FIGURE 733A

ACATGCTCCTCCTGTCCTTCTGGCGGAGCGTGCTTCCCGCTGCGGGGACGTTCGAGCAATGGCAGCCCTGCTGAG CAGGCTGTATGCCATTGCTGCCAAAGAAAAAGATATTCAAGAGGAGTCCACTTTTTCTTCTAGGAAGATTTCCAA TCAGTTTGATTGGGCTCTAATGAGACTAGATCTTTCTGTTCGAAGAACTGGCCGCATTCCAAAGAAGCTTCTACA AAAAGTTTTTAATGATACCTGCCGCTCAGGTGGCCTAGGTGGTAGTCATGCCTTGCTTCTACTACGTAGTTGTGG TTCTCTCTTGCCTGAACTAAAGCTTGAAGAGAGAACAGAATTTGCTCATAGGATATGGGACACACTTCAGAAATT AGGTGCTGTGTATGATGTGAGTCACTATAATGCTTTACTTAAAGTCTATCTTCAAAATGAATATAAATTCTCACC TTATTGTAATGTAGGAGATATTGAAGGTGCCAGCAAGATTCTTGGATTTATGAAAACTAAGGATCTCCCAGTTAC AGAGGCAGTATTCAGTGCCCTTGTGACAGGGCATGCCAGAGCTGGTGATATGGAGAATGCAGAAAACATTCTCAC AGTGATGAGAGATGCCGGAATTGAGCCTGGTCCAGACACATACCTCGCATTATTGAATGCATATGCTGAGAAGGG CGACATTGACCATGTTAAGCAGACTCTGGAGAAGGTGGAGAAGTCCGAGCTTCACCTTATGGACCGTGATTTACT GCAAATTATTTTTAGCTTCAGTAAAGCTGGGTATCCTCAGTATGTCTCAGAAATTTTGGAAAAAGTTACATGTGA AAGAAGATATATTCCAGATGCAATGAACCTCATTTTACTTTTAGTCACTGAAAAATTGGAAGATGTAGCGTTGCA AATTTTACTAGCATGCCCCGTATCAAAGGAAGATGGCCCAAGTGTCTTTGGCAGTTTCTTTTTACAACACTGTGT GACTATGAATACGCCTGTGGAGAAGCTAACAGACTACTGTAAGAAGTTAAAGGAAGTCCAGATGCACTCCTTTCC TCTGCAGTTCACCCTCCATTGTGCTTTACTCGCCAATAAAACTGATTTGGCAAAAGCCTTAATGAAGGCTGTGAA AGGTATAATTGAAATCCTCAAAGGAATGCAAGAATTGGGAGTACATCCTGATCAGGAAACATATACAGATTATGT GTTTTCTCAAGCTGGATTGAGAAGTGAAGCAGCAAATGGGAACTTAGACTTTGTATTATCATTTTTGAAATCAAA TACATTGCCCATCTGCAGTCTATAAGAAGTAGCCTACTGCTAGGCTTCAGGAGGTCTATGAATATAAATCT TTGGAGCGAGATAACAGAATTGTTGTACAAGGATGGACGTTATTGCCAGGAGCCTCGAGGACCGACGGAAGCTGT TGGCTATTTTCTTTATAACTTGATTGACAGCATGAGTGACTCAGAGGTACAGGCCAAGGAGGAGCATTTGAGACA ATACTTCCATCAGCTGGAGAAGATGAATGTAAAAATTCCTGAAAATATCTACAGAGGCATTCGTAATCTCCTGGA TGTGCAACTTACATCATCTGAATTGGAGTCCACACTTGAAACACTAAAAGCTGAAAATCAACCTATAAGAGATGT CCTAAAGCAACTCATATTAGTGCTTTGTTCAGAAGAGAATATGCAAAAAGCCCTTGAATTGAAAGCAAAAATATGA ATCCGACATGGTTACTGGTGGCTATGCAGCTTTAATAAATTTATGCTGTCGACATGATAAAGTAGAAGATGCCTT GAACTTGAAAGAAGTTTGACCGCTTAGATTCATCTGCTGTCCTTGACACCGGCAAGTATGTAGGCCTTGTAAG AGTATTGGCAAAGCATGGCAAGCTCCAAGATGCTATTAACATTCTGAAGGAGATGAAAGAGAAGGATGTTCTTAT CAAAGATACAACAGCCTTGTCCTTTTTCCACATGCTAAATGGCGCAGCTTTAAGAGGTGAAATTGAAACAGTAAA ACAGTTGCATGAAGCCATCGTGACTCTAGGGTTAGCAGAACCATCCACCAACATAAGTTTCCCATTGGTCACTGT ACACTTGGAAAAGGGCGACCTATCTACTGCTCTTGAGGTCGCCATTGACTGCTATGAAAAGTATAAAGTATTACC AAGGATTCATGATGTCTTGTGTAAACTGGTAGAGAAAGGCGAGACTGATCTAATTCAGAAAGCAATGGACTTTGT GAGCCAAGAACAAGGTGAAATGGTGATGCTCTATGATCTCTTTTTTTCCTTACAAACAGGAAATTACAAAGA GGCCAAGAAGATCATTGAGACTCCAGGGATTAGAGCTCGATCTGCAAGGCTTCAGTGGTTTTGTGACAGATGTGT TGCAAATAATCAGGTTGAAACTCTGGAAAAATTAGTGGAGCTGACACAGAAGCTATTTGAATGTGATAGAGACCA GATGTACTACAATCTGCTAAAACTGTATAAAATAAACGGTGACTGGCAAAGAGCTGATGCAGTCTGGAATAAAAT CCAAGAAGAAATGTTATTCCTCGTGAAAAGACATTAAGATTATTAGCAGAAATCCTTAGAGAGGGTAACCAGGA AGTTCCGTTTGACGTACCTGAGTTGTGGTATGAAGATGAAAAACATTCCCTGAATTCTTCGTCAGCCTCAACCAC GAATGCAAAAGAGCAAAACATTGTGTTTAATGCTGAAACCTACAGCAATCTCATTAAATTACTGATGTCAGAAGA TTATTTTACACAAGCAATGGAAGTGAAAGCATTCGCGGAGACCCACATCAAGGGCTTCACACTGAACGATGCTGC CAACAGCCGCCTCATCATAACGCAAGTTAGGCGGGATTATTTGAAAGAGGCTGTGACAACACTGAAAACAGTATT GGATCAGCAGCAGCACCCTTCTAGGTTAGCAGTGACCCGTGTCATCCAGGCATTGGCCATGAAGGGTGATGTTGA AAACATAGAAGTAGTTCAGAAGATGTTAAATGGACTCGAAGACTCCATTGGACTTTCAAAAATGGTTTTCATCAA

785/6881 FIGURE **733B**

TAACATTGCTTTGGCTCAAATAAAGAATAATAACATAGATGCCGCAATAGAAAACATTGAAAATATGCTTACTTC AGAGAATAAAGTCATTGAACCCCAATACTTCGGCTTGGCATACTTATTCAGAAAAGTAATAGAGGAGCAGTTGGA ACCAGCAGTTGAAAAGAGTAACATCATGGCGGAGAGATTGGCCAATCAGTTTGCAATTTATAAACCTGTCACTGA TTTTTTCCTTCAACTTGTGGATGCAGGCAAGGTGGATGATGCCAGAGCTCTCCTACAGAGATGTGGTGCAATTGC TGAACAAACCCCGATTTTGTTGTTGTTCCTCCTTAGGAATTCTAGGAAACAAGGAAAGGCATCAACTGTGAAATC TGTGTTAGAATTGATTCCTGAATTAAATGAAAAGGAAGAAGCATACAATTCCCTCATGAAAAGCTATGTCTCAGA GAAAGATGTCACATCTGCTAAAGCACTGTATGAACATTTGACTGCAAAGAATACAAAATTGGATGATCTGTTTCT AAAGCGTTACGCATCTTTGCTGAAGTATGCTGGAGAGCCTGTCCCTTTCATTGAACCCCCTGAAAGCTTTGAATT TTATGCACAGCAGCTAAGAAAATTGAGGGAAAACTCTTCTTGAAATAACCAGGCGATACTTTGTTTTGTATATAT ATGTATGTGTGATGCATGTTCAAAGTCTTATTGACCATAACTCTGTGCACTTGGTTATTGGACATTTTTGGAGTT TTTTTCTCTGGGAAAAATCGATAGTGTTTTCTTCAATGCTGCTGCTGTGAAGCCATACTTTTTCAGGATTCTT ACTTATTAGTCTGCTGTTTCTCTGAAAAATTTTAGAGCTAGGTATAGTGACCGTGAACTTTCTAACGCATAATAT TCTGTGATACAGCCATTCCGTACATGTGTGAAGTCCTGCATAACTTTCGAACTTTGTTAAATGTTGGCACTAGGA GTCATCAGATCTAGGCTTCATCATTTTCCAGTGAGAAGCAGAGACCCAAAGGGCCTGTTACTTGTGCTTGGTCAG GGGACTGTCTGTCATGCCTGGAGGCTCTTCGGCACACTTCCCCATCTTTCCCTTCTGCCACTGTGGCTTCAAGCA CCTCTGTTCATAGAGCGTCTCTGAAATTGAGTCTCGGTCATGACTTATCCCGAAGTAGAGCAATGTGTTTCCTCT CATTGTAGTTTCAGGACTTTGTCAGTACAAGCTCTGCCCTAGGCTTGTTACTTATACTCATATCCTGAAAAGAT GTGATTTCATCTATGAAGGGGTAAAATATTGGTTTGTATTTAATTGTTTGAAATAAAAGTGATCCCTATATTG

MGSGYTKAVYRVRLPGGAAVALKAVDFSGHDLGSCVREFGVRRGCYRLAAHKLLKEMVLLERLRHPNVLQLYGYC
YQDSEDIPDTLTTITELGAPVEMIQLLQTSWEDRFRICLSLGRLLHHLAHSPLGSVTLLDFRPRQFVLVDGELKV
TDLDDARVEETPCAGSTDCILEFPARNFTLPCSAQGWCEGMNEKRNLYNAYRFFFTYLLPHSAPPSLRPLLDSIV
NATGELAWGVDETLAQLEKVLHLYRSGQYLQNSTASSSTEYQCIPDSTIPQEDYRCWPSYHHGSCLLSVFNLAEA
VDVCESHAQCRAFVVTNQTTWTGRQLVFFKTGWSQVVPDPNKTTYVKASG

 ${\tt MWVILYLGRLSLTS} \stackrel{\cdot}{RQGTLPGQPRGQGQRCTPQHEPRLGSGSRCGLSQDLGRGWGRGLSASFAFNESLKAAKTRLSPFLEFEYPESFVLLVG}$

790/6881 FIGURE 738A

AGATGACTTTGGGAAATTGCTGCTGGCTGAGGCCCTCCTGGAGCAGTGTTTGAAGGAGAACCATGCCAAAATAAA AGACTCCATGCCTTTGCTGGAGAAGAATGAGCCGAAGATGAGCGAAGCCAAAAATTATCTAAGCAGTATCCTTAA CCATGGGAGGCTCTCGCCACAGTACATGTGTGAGGCCATGCTGATCCTGGGCAAACTGCATTACGTGGAGGGCTC ATACCGAGATGCCATCAGCATGTACGCACGGGCCGGGATTGATGACATGTCCATGGAGAACAAGCCCCTGTATCA CTTCCGCCTGACAGAGAGGGAGGAGGAAGTGATCACCTGTTTTGAGAGGGCCTCCTGGATCGCTCAGGTGTTCCT GCAGGAATTGGAGAAGACCACAAATAACAGCACGTCGAGGCATCTGAAAGGCTGTCACCCGCTTGACTATGAGCT CACCTACTTCCTGGAAGCTGCCCTCCAGAGCGCCTATGTGAAAAACCTGAAGAAGGGGAACATCGTGAAGGGCAT GAGAGAGCTCCGGGAGGTGCTGCGGACTGTGGAGACCAAAGCAACTCAGAACTTCAAAGTGATGGCGGCCAAGCA CCTGGCGGGGGTCCTGCTGCACTCCCTGAGTGAGGAGTGCTACTGGAGCCCCCTGTCCCACCCTCTGCCTGAGTT CATGGGCAAGGAGGAGAGTTCTTTCGCCACTCAGGCCCTGCGGAAACCTCACCTCTATGAAGGAGACAACCTCTA CTGCCCCAAGGACAACATCGAGGAAGCCCTCCTGCTCCTCCTCATCAGCGAATCCATGGCAACTCGAGATGTGGT GCTGAGCCGGGTGCCGGAGCAGGAGGAGGACCGGACAGTGAGCTTGCAGAATGCCGCAGCCATCTATGACCTCCT TGGAGAATTTCACCTTTGGTACCAGGTGGCCCTCTCCATGGTGGCTTGTGGGAAGTCAGCCTACGCTGTGTCCCT GCTGCGGGAGTGTGTGAAGTTGCGGCCCTCGGACCCCACCGTGCCCCTGATGGCCGCGAAGGTCTGCATCGGGTC CCTTCGCTGGCTAGAGGAAGCAGAGCACTTTGCCATGATGGTGATCAGCCTCGGAGAGGAAGCCGGGGGAGTTCCT TGAATTGCACCGGAAGGCACTGCAGACGCTGGAGAGGGCTCAGCAGCTGGCGCCCAGTGACCCCCAGGTCATCCT CTATGTCTCGCTGCAGCTGGCCCTCGTCCGACAGATCTCCAGTGCCATGGAGCAGCTGCAGGAGGCCCTGAAGGT ACGCAAGGATGATGCCCACGCCTCCACCTGCTGGCACTGCTCTTCTCTGCCCAGAAGCACCACCAGCATGCCCT GGATGTTGTCAACATGGCCATCACCGAGCACCCTGAGAACTTCAACCTGATGTTCACCAAGGTGAAGCTGGAGCA GGTGCTGAAAGGCCCAGAGGAAGCCCTCGTGACCTGCAGACAAGTGCTGAGGCTGTGGCAGACCCTGTACAGCTT CTCCCAGCTGGGAGGCCTAGAAAAGGATGGCAGCTTCGGTGAGGGCCTCACCATGAAGAAGCAGAGTGGCATGCA CCTGACTTTGCCTGATGCCCATGATGCAGACTCTGGCTCCCGGCGGGCTTCGTCCATCGCCGCCTCCCGGCTGGA GGAGGCCATGTCAGAGCTGACTATGCCCTCTTCGGTCCTGAAGCAGGGCCCCATGCAGCTGTGGACCACGCTGGA ACAGATCTGGCTGCAGGCTGCTGAGCTGTTCATGGAGCAGCACCTCAAGGAAGCAGGTTTCTGCATCCAGGA GGAGGAGGCCAAGCAGCTGTACAAGGAGGCGCTCACGGTGAACCCAGATGGCGTGCGCATCATGCATAGCCTGGG TCTGATGCTGAGTCGGCTGGGCCACAAGAGCTTGGCCCAGAAGGTGCTTCGTGATGCCGTGGAGAGGCAGAGTAC GTGCCACGAGGCGTGGCAGGCCTGGGCGAGGTGCTGCAGGCCCAGGGCCAGAACGAGGCTGCCGTTGACTGCTT CCTCACCGCCCTTGAGCTGGAGGCCAGCAGCCCTGTACTGCCCTTCTCCATCATCCCCAGAGAGCTCTGACGACG CTGCAGCCGCAGGGAGGGAGGGCTGGCCAGAGGGAGGGAACGTGGGTCAGGGTGGGGCAACAGTG GCATCAGGTGCGGGGCCTCAGGGAAATACATCTTTAGTGAACGCCTCTGCAGCTGCAGCCCTCGTTCTCTTGGCT GGGCCAAGAGGGCCTTCCTGGATTTCTTTGTTGGTGCCTTGGGAAACAGTCTGACTTGAACCCTAAGTGCCTTTG GAGAGTTTTGTGGTGACCAGACTTGCTCCCCAAGAGCTGGGCAGCGGGGAGCCTCACAGCTGTCCTTCACCCTCA CCCATGCCTCTGGCTTGGAGTCTGGGTGGGGGGTTCTCACTCCCCACTCTCAGCACAGTACAGACTTCTGGATCT CTCTCAGGTCTTGCCCAGGGCGGTCACAATGTGAAGAAACTGCGGGCAAGTGGGAAGACTATGAGATTTCTGGGT TCCCTTCTCAGACTTGGAGTTAGTAGATGATTCCTGCATTGCCCCTGCTTGCCCTCTGAGACCAGCTGGGCCCCA CCTTGCTCTTTCCCCCTGCTACCAAGTGCCTTTGGGGTCTGACCAGGGGTACTGAGCACCGGCCCTAACACTTCC ATCTCCACCCACCCATCTCCCTGGCGATGTGCTCCAGCCCAAGCAGCCTCCGTAGGCTTTAGATCCTGTGGTTG CTAGATCCAGTCCTTTCTAATACCCTGAGTCAACACATTACTCCTGCAGGTCTTAGGCTACAATGCAGGTCCCTT CCCCTCTCCTGTGGCTGAGCAGGCCTCTGTGTCCATGACACCTGTCTTCCGGGCCTGGGGGGCTGTGGGTGTATGT CTATCAGGGGATCCTTTTGTATCTGCACTTTGGGTTTTAGTTTCAAAGCTCCATCAGGTACAGCTTGCATTTCAG GATGTGTGGAAAGCTCGGGTGAGGGCTGCCCTGGTTCATCATAGCTCCACCTTCCTCGGAAGGAGTGGGCTGTTG

791/6881 FIGURE 738B

MAAKGAHGSYLKVESELERCRAEGHWDRMPELVRQLQTLSMPGGGGNRRGSPSAAFTFPDTDDFGKLLLAEALLE QCLKENHAKIKDSMPLLEKNEPKMSEAKNYLSSILNHGRLSPQYMCEAMLILGKLHYVEGSYRDAISMYARAGID DMSMENKPLYQMRLLSEAFVIKGLSLERLPNSIASRFRLTEREEEVITCFERASWIAQVFLQELEKTINNSTSRH LKGCHPLDYELTYFLEAALQSAYVKNLKKGNIVKGMRELREVLRTVETKATQNFKVMAAKHLAGVLLHSLSEECY WSPLSHPLPEFMGKEESSFATQALRKPHLYEGDNLYCPKDNIEEALLLLLISESMATRDVVLSRVPEQEEDRTVS LQNAAAIYDLLSITLGRRGQYVMLSECLERAMKFAFGEFHLWYQVALSMVACGKSAYAVSLLRECVKLRPSDPTV PLMAAKVCIGSLRWLEEAEHFAMMVISLGEEAGEFLPKGYLALGLTYSLQATDATLKSKQDELHRKALQTLERAQ QLAPSDPQVILYVSLQLALVRQISSAMEQLQEALKVRKDDAHALHLLALLFSAQKHHQHALDVVNMAITEHPENF NLMFTKVKLEQVLKGPEEALVTCRQVLRLWQTLYSFSQLGGLEKDGSFGEGLTMKKQSGMHLTLPDAHDADSGSR RASSIAASRLEEAMSELTMPSSVLKQGPMQLWTTLEQIWLQAAELFMEQQHLKEAGFCIQEAAGLFPTSHSVLYM RGRLAEVKGNLEEAKQLYKEALTVNPDGVRIMHSLGLMLSRLGHKSLAQKVLRDAVERQSTCHEAWQGLGEVLQA QGONEAAVDCFLTALELEASSPVLPFSIIPREL

GGCGGGAAACAGCTTAGTGGGTGTGGGGTCGCGCATTTTCTTCAACCAGGAGGTGAGGAGGTTTCGAC<u>ATG</u>GCGG TGCAGCCGAAGGAGACGCTGCAGTTGGAGAGCGCGGCCGAGGTCGGCTTCGTGCGCTTCTTTCAGGGCATGCCGG AGAAGCCGACCACCACAGTGCGCCTTTTCGACCGGGGCGACTTCTATACGGCGCACGGCGAGGACGCGCTGCTGG CCGCCCGGGAGGTGTTCAAGACCCAGGGGGTGATCAAGTACATGGGGCCGGCAGGAGCAAAGAATCTGCAGAGTG TTGTGCTTAGTAAAATGAATTTTGAATCTTTTGTAAAAGATCTTCTTCTGGTTCGTCAGTATAGAGTTGAAGTTT ATAAGAATAGAGCTGGAAATAAGGCATCCAAGGAGAATGATTGGTATTTGGCATATAAGGCTTCTCCTGGCAATC TCTCTCAGTTTGAAGACATTCTCTTTGGTAACAATGATATGTCAGCTTCCATTGGTGTTGTGGGTGTTAAAATGT CCGCAGTTGATGGCCAGAGACAGGTTGGAGTTGGGTATGTGGATTCCATACAGAGGAAACTAGGACTGTGTGAAT TCCCTGATAATGATCAGTTCTCCAATCTTGAGGCTCTCCTCATCCAGATTGGACCAAAGGAATGTGTTTTACCCG AAAAAGCTGACTTTTCCACAAAAGACATTTATCAGGACCTCAACCGGTTGTTGAAAGGCAAAAAAGGGAAGAAGA TGAATAGTGCTGTATTGCCAGAAATGGAGAATCAGGTTGCAGTTTCATCACTGTCTGCGGTAATCAAGTTTTTAG AACTCTTATCAGATGATTCCAACTTTGGACAGTTTGAACTGACTACTTTTGACTTCAGCCAGTATATGAAATTGG ATATTGCAGCAGTCAGAGCCCTTAACCTTTTCAGGGTTCTGTTGAAGATACCACTGGCTCTCAGTCTCTGGCTG CCTTGCTGAATAAGTGTAAAACCCCTCAAGGACAAAGACTTGTTAACCAGTGGATTAAGCAGCCTCTCATGGATA AGAACAGAATAGAGGAGAGATTGAATTTAGTGGAAGCTTTTGTAGAAGATGCAGAATTGAGGCAGACTTTACAAG AAGATTTACTTCGTCGATTCCCAGATCTTAACCGACTTGCCAAGAAGTTTCAAAGACAAGCAGCAAACTTACAAG ATTGTTACCGACTCTATCAGGGTATAAATCAACTACCTAATGTTATACAGGCTCTGGAAAAACATGAAGGAAAAC ACCAGAAATTATTGTTGGCAGTTTTTGTGACTCCTCTTACTGATCTTCGTTCTGACTTCTCCAAGTTTCAGGAAA TGATAGAAACAACTTTAGATATGGATCAGGTGGAAAACCATGAATTCCTTGTAAAACCTTCATTTGATCCTAATC TCAGTGAATTAAGAGAAATAATGAATGACTTGGAAAAGAAGATGCAGTCAACATTAATAAGTGCAGCCAGAGATC TTGGCTTGGACCCTGGCAAACAGATTAAACTGGATTCCAGTGCACAGTTTGGATATTACTTTCGTGTAACCTGTA AGGAAGAAAAAGTCCTTCGTAACAATAAAAACTTTAGTACTGTAGATATCCAGAAGAATGGTGTTAAATTTACCA ACAGCAAATTGACTTCTTTAAATGAAGAGTATACCAAAAATAAAACAGAATATGAAGAAGCCCAGGATGCCATTG TTAAAGAAATTGTCAATATTTCTTCAGGCTATGTAGAACCAATGCAGACACTCAATGATGTGTTAGCTCAGCTAG ATGCTGTTGTCAGCTTTGCTCACGTGTCAAATGGAGCACCTGTTCCATATGTACGACCAGCCATTTTGGAGAAAG GACAAGGAAGAATTATTAAAAGCATCCAGGCATGCTTGTGTTGAAGTTCAAGATGAAATTGCATTTATTCCTA ATGACGTATACTTTGAAAAAGATAAACAGATGTTCCACATCATTACTGGCCCCAATATGGGAGGTAAATCAACAT ATATTCGACAAACTGGGGTGATAGTACTCATGGCCCAAATTGGGTGTTTTGTGCCATGTGAGTCAGCAGAAGTGT CCATTGTGGACTGCATCTTAGCCCGAGTAGGGGCTGGTGACAGTCAATTGAAAGGAGTCTCCACGTTCATGGCTG AAATGTTGGAAACTGCTTCTATCCTCAGGTCTGCAACCAAAGATTCATTAATAATCATAGATGAATTGGGAAGAG GAACTTCTACCTACGATGGATTTGGGTTAGCATGGGCTATATCAGAATACATTGCAACAAAGATTGGTGCTTTTT GCATGTTTGCAACCCATTTTCATGAACTTACTGCCTTGGCCAATCAGATACCAACTGTTAATAATCTACATGTCA CAGCACTCACCACTGAAGAGACCTTAACTATGCTTTATCAGGTGAAGAAAGGTGTCTGTGATCAAAGTTTTGGGA TTCATGTTGCAGAGCTTGCTAATTTCCCTAAGCATGTAATAGAGTGTGCTAAACAGAAAGCCCTGGAACTTGAGG AGTTTCAGTATATTGGAGAATCGCAAGGATATGATATCATGGAACCAGCAGCAAAGAAGTGCTATCTGGAAAGAG AGCAAGGTGAAAAAATTATTCAGGAGTTCCTGTCCAAGGTGAAACAAATGCCCTTTACTGAAATGTCAGAAGAAA ACATCACAATAAAGTTAAAACAGCTAAAAGCTGAAGTAATAGCAAAGAATAATAGCTTTGTAAATGAAATCATTT CACGAATAAAAGTTACTACG**TGA**AAAATCCCAGTAATGGAATGAAGGTAATATTGATAAGCTATTGTCTGTAATA GTTTTATATTGTTTTATATTAACCCTTTTTCCATAGTGTTAACTGTCAGTGCCCATGGGCTATCAACTTAATAAG ATATTTAGTAATATTTTACTTTGAGGACATTTTCAAAGATTTTTATTTTGAAAAATGAGAGCTGTAACTGAGGAC

MAVQPKETLQLESAAEVGFVRFFQGMPEKPTTTVRLFDRGDFYTAHGEDALLAAREVFKTQGVIKYMGPAGAKNL QSVVLSKMNFESFVKDLLLVRQYRVEVYKNRAGNKASKENDWYLAYKASPGNLSQFEDILFGNNDMSASIGVVGV KMSAVDGQRQVGVGYVDSIQRKLGLCEFPDNDQFSNLEALLIQIGPKECVLPGGETAGDMGKLRQIIQRGGILIT ERKKADFSTKDIYQDLNRLLKGKKGEQMNSAVLPEMENQVAVSSLSAVIKFLELLSDDSNFGQFELTTFDFSQYM KLDIAAVRALNLFQGSVEDTTGSQSLAALLNKCKTPQGQRLVNQWIKQPLMDKNRIEERLNLVEAFVEDAELRQT LQEDLLRRFPDLNRLAKKFQRQAANLQDCYRLYQGINQLPNVIQALEKHEGKHQKLLLAVFVTPLTDLRSDFSKF QEMIETTLDMDQVENHEFLVKPSFDPNLSELREIMNDLEKKMQSTLISAARDLGLDPGKQIKLDSSAQFGYYFRV TCKEEKVLRNNKNFSTVDIQKNGVKFTNSKLTSLNEEYTKNKTEYEEAQDAIVKEIVNISSGYVEPMQTLNDVLA QLDAVVSFAHVSNGAPVFYVRPAILEKGQGRIILKASRHACVEVQDEIAFIPNDVYFEKDKQMFHIITGPNMGGK STYIRQTGVIVLMAQIGCFVPCESAEVSIVDCILARVGAGDSQLKGVSTFMAEMLETASILRSATKDSLIIIDEL GRGTSTYDGFGLAWAISEYIATKIGAFCMFATHFHELTALANQIPTVNNLHVTALTTEETLTMLYQVKKGVCDQS FGIHVAELANFPKHVIECAKQKALELEEFQYIGESQGYDIMEPAAKKCYLEREQGEKIIQEFLSKVKQMPFTEMS EENITIKLKQLKAEVIAKNNSFVNEIISRIKVTT

CTTTTGCGGGTGGCGGCGAACGCGGAGAGCACGCCATGAAGGCCTCGGGCACACTACGAGAGTACAAAGTAGTGG
GTCGCTGCCTGCCCACCCCCAAATGCCACACACCACCCCTCTACCGCATGCGAATCTTTGCGCCTAATCATGTCG
TCGCCAAGTCCCGCTTCTGGTACTTCGTATCTCAGTTAAAGAAGATGAAGAAGTCTTCAGGGGAGATTGTCTACT
GTGGGCAGGTGTTTGAGAAGTTCCCCTTGCGGGTGAAGAACTTCGGGATCTGGCTGCGCTATGACTCCCGGAGCG
GCACCCACAACATGTACCGGGAATACCGGGACCTGACCACCGCAGGCGCTGTCACCCGGTGCTACCGAGACATGA
GCGCCCGGCACGGCGGCCGGCCCACTCCATTCAGATCATGAAGGTGGAGGAGATCGCGGCCAGCAAGTGCCGCC
GGCCGGCTGTCAAGCAGTTCCACGACTCCAAGATCAAGTTCCCGCTGCCCCACCGGGTCCTGCCCCAAAATAA
ACCCACGCTTCACCACCAAGAGGCCCCAACACCTTCTTCTAGGTGCAGGGCCCTCGCCCCGGGTGTGCCCCAAAATAA
ACTCAGGAACGCCCC

797/6881 FIGURE 744A

CCGGCTGTCGGT<u>ATG</u>TCGCGACAGAGCACCCTGTACAGCTTCTTCCCCAAGTCTCCGGCGCTGAGTGATGCCAAC AAGGCCTCGGCCAGGGCCTCACGCGAAGGCGGCCGTGCCGCTGCCCCCGGGGCCTCTCCCTTCCCCAGGCGGG GATGCGGCCTGGAGCGAGGCTGGGCCCAGGCCCTTGGCGCGATCCGCGTCACCGCCCAAGGCGAAGAAC CTCAACGGAGGGCTGCGGAGATCGGTAGCGCCTGCTGCCCCCACCAGTTGTGACTTCTCACCAGGAGATTTGGTT TGGGCCAAGATGGAGGGTTACCCCTGGTGGCCTTGTCTGGTTTACAACCACCCCTTTGATGGAACATTCATCCGC GAGAAAGGGAAATCAGTCCGTGTTCATGTACAGTTTTTTGATGACAGCCCAACAAGGGGCTGGGTTAGCAAAAGG CTTTTAAAGCCATATACAGGTTCAAAATCAAAGGAAGCCCAGAAGGGAGGTCATTTTTACAGTGCAAAGCCTGAA GATGAGCCCTCAGAGCCAGAAGAGGAAGAAGAGAGAGAGGGGAGGTAGGCACAACTTACGTAACAGATAAGAGTGAAGAA GATAATGAAATTGAGAGTGAAGAGGAAGTACAGCCTAAGACACAAGGATCTAGGCGAAGTAGCCGCCAAATAAAA AAACGAAGGGTCATATCAGATTCTGAGAGTGACATTGGTGGCTCTGATGTGGAATTTAAGCCAGACACTAAGGAG GAAGGAAGCAGTGATGAAATAAGCAGTGGAGTGGGGGATAGTGAGAGTGAAGGCCTGAACAGCCCTGTCAAAGTT GCCACCAAACAAGCAACTAGCATTTCATCAGAAACCAAGAATACTTTGAGAGCTTTCTCTGCCCCTCAAAATTCT GAATCCCAAGCCCACGTTAGTGGAGGTGGTGATGACAGTAGTCGCCCTACTGTTTGGTATCATGAAACTTTAGAA TGGCTTAAGGAGGAAAAGAGAAGAGATGAGCACAGGAGGAGGCCTGATCACCCCGATTTTGATGCATCTACACTC TATGTGCCTGAGGATTTCCTCAATTCTTGTACTCCTGGGATGAGGAAGTGGTGGCAGATTAAGTCTCAGAACTTT GATCTTGTCATCTGTTACAAGGTGGGGAAATTTTATGAGCTGTACCACATGGATGCTCTTATTGGAGTCAGTGAA CTGGGGCTGGTATTCATGAAAGGCAACTGGGCCCATTCTGGCTTTCCTGAAATTGCATTTGGCCGTTATTCAGAT TCCCTGGTGCAGAAGGGCTATAAAGTAGCACGAGTGGAACAGACTGAGACTCCAGAAATGATGGAGGCACGATGT GAAGATTCTTCTGGCCATACTCGTGCATATGGTGTGTGCTTTGTTGATACTTCACTGGGAAAGTTTTTCATAGGT CAGTTTTCAGATGATCGCCATTGTTCGAGATTTAGGACTCTAGTGGCACACTATCCCCCAGTACAAGTTTTATTT GAAAAAGGAAATCTCTCAAAGGAAACTAAAACAATTCTAAAGAGTTCATTGTCCTGTTCTCTCAGGAAGGTCTG ATACCCGGCTCCCAGTTTTGGGATGCATCCAAAACTTTGAGAACTCTCCTTGAGGAAGAATATTTTAGGGAAAAAG CTAAGTGATGGCATTGGGGTGATGTTACCCCAGGTGCTTAAAGGTATGACTTCAGAGTCTGATTCCATTGGGTTG ACACCAGGAGAAAAAGTGAATTGGCCCTCTCTGCTCTAGGTGGTTGTGTCTTCTACCTCAAAAAATGCCTTATT GATCAGGAGCTTTTATCAATGGCTAATTTTGAAGAATATATTCCCTTGGATTCTGACACAGTCAGCACTACAAGA TCTGGTGCTATCTTCACCAAAGCCTATCAACGAATGGTGCTAGATGCAGTGACATTAAACAACTTGGAGATTTTT CTGAATGGAACAAATGGTTCTACTGAAGGAACCCTACTAGAGAGGGTTGATACTTGCCATACTCCTTTTGGTAAG CGGCTCCTAAAGCAATGGCTTTGTGCCCCACTCTGTAACCATTATGCTATTAATGATCGTCTAGATGCCATAGAA GACCTCATGGTTGTGCCTGACAAAATCTCCGAAGTTGTAGAGCTTCTAAAGAAGCTTCCAGATCTTGAGAGGCTA CTCAGTAAAATTCATAATGTTGGGTCTCCCCTGAAGAGTCAGAACCACCCAGACAGCAGGGGCTATAATGTATGAA ATAGGGATCATGGAAGAAGTTGCTGATGGTTTTAAGTCTAAAATCCTTAAGCAGGTCATCTCTCTGCAGACAAAA AATCCTGAAGGTCGTTTTCCTGATTTGACTGTAGAATTGAACCGATGGGATACAGCCTTTGACCATGAAAAGGCT CGAAAGACTGGACTTATTACTCCCAAAGCAGGCTTTGACTCTGATTATGACCAAGCTCTTGCTGACATAAGAGAA AATGAACAGAGCCTCCTGGAATACCTAGAGAAACAGCGCAACAGAATTGGCTGTAGGACCATAGTCTATTGGGGG ATTGGTAGGAACCGTTACCAGCTGGAAATTCCTGAGAATTTCACCACTCGCAATTTGCCAGAAGAATACGAGTTG AAATCTACCAAGAAGGGCTGTAAACGATACTGGACCAAAACTATTGAAAAGAAGTTGGCTAATCTCATAAATGCT GAAGAACGGAGGGATGTATCATTGAAGGACTGCATGCGGCGACTGTTCTATAACTTTGATAAAAATTACAAGGAC TGGCAGTCTGCTGTAGAGTGTATCGCAGTGTTGGATGTTTTACTGTGCCTGGCTAACTATAGTCGAGGGGGTGAT CCTTGCATTACGAAGACTTTTTTTGGAGATGATTTTATTCCTAATGACATTCTAATAGGCTGTGAGGAAGAGGAG CAGGAAAATGGCAAAGCCTATTGTGTGCTTGTTACTGGACCAAATATGGGGGGCAAGTCTACGCTTATGAGACAG GCTGGCTTATTAGCTGTAATGGCCCAGATGGGTTGTTACGTCCCTGCTGAAGTGTGCAGGCTCACACCAATTGAT

^{798/6881} **FIGURE 744B**

MSRQSTLYSFFPKSPALSDANKASARASREGGRAAAAPGASPSPGGDAAWSEAGPGPRPLARSASPPKAKNLNGG $\verb|LRRSVAPAAPTSCDFSPGDLVWAKMEGYPWWPCLVYNHPFDGTFIREKGKSVRVHVQFFDDSPTRGWVSKRLLKP|$ YTGSKSKEAQKGGHFYSAKPEILRAMQRADEALNKDKIKRLELAVCDEPSEPEEEEEMEVGTTYVTDKSEEDNEI ESEEEVQPKTQGSRRSSRQIKKRRVISDSESDIGGSDVEFKPDTKEEGSSDEISSGVGDSESEGLNSPVKVARKR KRMVTGNGSLKRKSSRKETPSATKQATSISSETKNTLRAFSAPQNSESQAHVSGGGDDSSRPTVWYHETLEWLKE EKRRDEHRRRPDHPDFDASTLYVPEDFLNSCTPGMRKWWQIKSQNFDLVICYKVGKFYELYHMDALIGVSELGLV FMKGNWAHSGFPEIAFGRYSDSLVQKGYKVARVEQTETPEMMEARCRKMAHISKYDRVVRREICRIITKGTQTYS VLEGDPSENYSKYLLSLKEKEEDSSGHTRAYGVCFVDTSLGKFFIGQFSDDRHCSRFRTLVAHYPPVQVLFEKGN ${\tt LSKETKTILKSSLSCSLQEGLIPGSQFWDASKTLRTLLEEEYFREKLSDGIGVMLPQVLKGMTSESDSIGLTPGE}$ KSELALSALGGCVFYLKKCLIDQELLSMANFEEYIPLDSDTVSTTRSGAIFTKAYQRMVLDAVTLNNLEIFLNGT NGSTEGTLLERVDTCHTPFGKRLLKQWLCAPLCNHYAINDRLDAIEDLMVVPDKISEVVELLKKLPDLERLLSKI HNVGSPLKSQNHPDSRAIMYEETTYSKKKIIDFLSALEGFKVMCKIIGIMEEVADGFKSKILKQVISLQTKNPEG RFPDLTVELNRWDTAFDHEKARKTGLITPKAGFDSDYDQALADIRENEQSLLEYLEKQRNRIGCRTIVYWGIGRN RYQLEIPENFTTRNLPEEYELKSTKKGCKRYWTKTIEKKLANLINAEERRDVSLKDCMRRLFYNFDKNYKDWQSA VECIAVLDVLLCLANYSRGGDGPMCRPVILLPEDTPPFLELKGSRHPCITKTFFGDDF1PNDILIGCEEEEQENG KAYCVLVTGPNMGGKSTLMRQAGLLAVMAQMGCYVPAEVCRLTPIDRVFTRLGASDRIMSGESTFFVELSETASI LMHATAHSLVLVDELGRGTATFDGTAIANAVVKELAETIKCRTLFSTHYHSLVEDYSQNVAVRLGHMACMVENEC EDPSQETITFLYKFIKGACPKSYGFNAARLANLPEEVIQKGHRKAREFEKMNQSLRLFREVCLASERSTVDAEAV HKLLTLIKEL

800/6881 FIGURE 746A

GTGAGCTGAAGCAGGGCAGGGCATCAACTCACCCAGGAAGTGCAAGGGGTTTGGGGATTTTCCTTTCCTAGCCAA GGGAAGGCATGACAGACTGTACCTGGAAAAACAGGACACTCTTGCCCAAATACTGCACTTTTTGCACAGTCTTAG CAACTGGCAGACCAGGAGATTCTCTCCTGTGCCTGATTCATTGGGTCCCACACCCATAGGGCCTTGCTTACTGCC AGTGCAGCAGTCTGAGATTAACACCCCATCCCCGGGAGAACTCTAAGAAGGAGCTGATGTGGAGGAGCAGCTGAG ACAGTTCAAGATGACGACCACAGTAGCCACAGACTATGACAACATTGAGATCCAGCAGCAGTACAGTGATGTCAA CAACCGCTGGGATGTCGACGACTGGGACAATGAGAACAGCTCTGCGCGGCTTTTTGAGCGGTCCCGCATCAAGGC TCTGGCAGATGAGCGTGAAGCCGTGCAGAAGAAGACCTTCACCAAGTGGGTCAATTCCCACCTTGCCCGTGTGTC CTGCCGGATCACAGACCTGTACACTGACCTTCGAGATGGACGGATGCTCATCAAGCTGCTGGAGGTCCTCTCTGG AGAGAGGCTGCCTAAACCCACCAAGGGACGAATGCGCATCCACTGCTTAGAGAATGTGGACAAGGCCCTTCAGTT TGGCCTCATCTGGACCATCATCCTGCGCTTCCAGATCCAGGATATCAGTGTGGAAACTGAAGACAACAAAGAGAA GAAATCTGCCAAGGATGCATTGCTGTTGTGGTGCCAGATGAAGACAGCTGGGTACCCCAATGTCAACATTCACAA TTTCACCACTAGCTGGAGGGACGGCATGGCCTTCAATGCACTGATACACAAACACCGGCCTGACCTGATAGATTT TGACAAACTAAAGAAATCTAACGCACACTACAACCTGCAGAATGCATTTAATCTGGCAGAACAGCACCTCGGCCT CACTAAACTGTTGGACCCCGAAGACATCAGCGTGGACCATCCTGATGAGAAGTCCATAATCACTTATGTGGTGAC TTATTACCACTACTTCTCTAAGATGAAGGCCTTAGCTGTTGAAGGAAAACGAATTGGAAAGGTGCTTGACAATGC TATTGAAACAGAAAAATGATTGAAAAGTATGAATCACTTGCCTCTGACCTTCTGGAATGGATTGAACAAACCAT CATCATTCTGAACAATCGCAAATTTGCCAATTCACTGGTCGGGGTTCAACAGCAGCTTCAGGCATTCAACACTTA $\tt CCGCACTGTGGAGAAACCACCCAAATTTACTGAGAAGGGGAACTTGGAAGTGCTGCTCTTCACCATTCAGAGCAA$ GATGAGGGCCAACAACCAGAAGGTCTACATGCCCCGGGAGGGGAAGCTCATCTCTGACATCAACAAGGCCTGGGA AAGACTGGAAAAAGCCGGAACACGAAAGAGAACTGGCTTTGCGGAATGAGCTCATAAGACAGGAGAAACTGGAACA GCTCGCCCGCAGATTTGATCGCAAGGCAGCTATGAGGGAGACTTGGCTGAGCGAAAACCAGCGTCTGGTGTCTCA CGCATACGAGGAGCGTGTGCAGGCTGTGGTAGCCGTGGCCAGGGGCTCGAGGCCGAGAATTACCACGACATCAA GCGCATCACAGCGAGGAAGGACAATGTCATCCGGCTCTGGGAATACCTACTGGAACTGCTCAGGGCCCGGAGACA GGTTGAAGCAGACATTGGCATCCAGGCAGAGCGGGTGAGAGGTGTCAATGCCTCCGCCCAGAAGTTCGCAACAGA CGGGGAAGGTTACAAGCCCTGTGACCCCCAGGTGATCCGAGACCGCGTGGCCCACATGGAGTTCTGTTATCAAGA GCTTTGCCAGCTGGCGGCTGAGCGCAGGGCCCGTCTGGAAGAGTCCCGCCGCCTCTGGAAGTTCTTCTGGGAGAT GGCAGAAGAGGAAGGCTGGATACGGGAGAAGGAGAAGATCCTGTCCTCGGACGATTACGGGAAAGACCTGACCAG CGTCATGCGCCTGCTCAGCAAGCACCGGGCGTTCGAGGACGAGATGAGCGGCCGCAGTGGCCACTTTGAGCAGGC CATCAAGGAAGGCGAAGACATGATCGCGGAGGAGCACTTCGGGTCGGAGAAGATCCGTGAGAGGATCATTTACAT CCGGGAGCAGTGGGCCAACCTAGAGCAGCTCTCGGCCATTCGGAAGAAGCGCCTGGAGGAGGCCTCCCTGCTGCA CCAGTTCCAGGCAGATGCTGATGACATTGATGCCTGGATGCTGGACATCCTCAAGATTGTCTCCAGCAGCGACGT GGGCCACGATGAGTATTCCACACAGTCTCTGGTCAAGAAACACAAGGACGTGGCGGAAGAGATCGCCAATTACAG GCCCACCCTTGACACGCTGCACGAACAAGCCAGCGCCCTCCCCCAGGAGCATGCCGAGTCTCCAGACGTGAGGGG CAGGCTGTCGGGCATCGAGGAGCGGTATAAGGAGGTGGCAGAGCTGACGCGGCTGCGGAAGCAGGCACTCCAGGA ${\tt CACTCTGGCCCTGTACAAGATGTTCAGCGAGGCTGATGCCTGTGAGCTCTGGATCGACGAGAAGGAGCAGTGGCT}$ CAACAACATGCAGATCCCAGAGAAGCTGGAGGATCTGGAGGTCATCCAGCACAGATTTGAGAGCCTAGAACCAGA AATGAACAACCAGGCTTCCCGGGTTGCAGTGGTGAACCAGATTGCACGCCAGCTGATGCACAGCGGCCACCCAAG TGAGAAGGAAATCAAAGCCCAGCAGGACAAACTCAACACAAGGTGGAGCCAGTTCAGAGAACTGGTTGACAGGAA GAAGGATGCCCTCCTGTCTGCCCTGAGCATCCAGAACTACCACCTCGAGTGCAATGAAACCAAATCCTGGATTCG GCTGACCGGCATGGAGCGGGACTTGGTGGCCATTGAGGCAAAGCTGAGTGACCTGCAGAAGGAGGCGGAGAAGCT GGAGTCCGAGCACCCGACCAGGCCCAGGCCATCCTGTCTCGGCTGGCCGAGATCAGCGACGTGTGGGAGGAGAT GAAGACCACCCTGAAAAACCGAGAGGCCTCCCTGGGAGAGGCCAGCAAGCTGCAGCAGTTCCTACGGGACTTGGA CGACTTCCAGTCCTGGCTCTCTAGGACCCAGACAGCGATCGCCTCGGAGGACATGCCAAACACCCTGACCGAGGC

801/6881 FIGURE 746B

TGAGAAGCTGCTCACGCAGCACGAGAACATCAAGAATGAGATCGACAACTACGAGGAGGACTACCAGAAGATGAG GGACATGGGCGAGATGGTCACCCAGGGGCAGACCGATGCCCAGTACATGTTTCTGCGGCAGCGGCTGCAGGCCCT GGACACTGGATGGAACGAGCTCCACAAGATGTGGGAGAACAGACAAAATCTCCTATCCCAGTCACATGCCTACCA GCAGTTCCTCAGAGACACGAAGCAAGCCGAAGCCTTTCTTAACAACCAGGAGTATGTTCTGGCTCACACTGAAAT GCCTACCACCTTGGAAGGAGCTGAAGCAGCAATTAAAAAGCAAGAGGACTTCATGACCACCATGGACGCCAATGA GGAGAAGATCAATGCTGTGGTGGAGACTGGCCGGAGGCTGGTGAGCGATGGGAACATCAACTCAGATCGCATCCA GGAGAAGGTGGACTCTATTGATGACAGACATAGGAAGAATCGTGAGACAGCCAGTGAACTTTTGATGAGGTTGAA GGACAACAGGGATCTACAGAAATTCCTGCAAGATTGTCAAGAGCTGTCTCTCTGGATCAATGAGAAGATGCTCAC AGCCCAGGACATGTCTTACGATGAAGCCAGAAATCTGCACAGTAAATGGTTGAAGCATCAAGCATTTATGGCAGA GGAAGCTGTGGTGAAGGAGAAACTCACTGGTTTACATAAAATGTGGGAAGTCCTTGAATCCACTACCCAGACAAA GGCCCAGCGGCTCTTTGATGCAAACAAGGCCGAACTTTTCACCCAGAGCTGTGCAGATCTAGACAAATGGCTGCA CGGCCTGGAGAGTCAGATTCAGTCTGATGACTATGGCAAACACCTGACCAGTGTCAATATCCTGCTGAAAAAGCA ACAGATGCTGGAGAATCAGATGGAAGTGCGGAAGAAGGAGATCGAAGAGCTCCAAAGCCCAAGCCCAGGCCCTGAG TCAGGAAGGGAAGACCACCGACGAGGTAGACAGCAAGCCCTCACCGTGCAGACCAAGTTCATGGAGTTGCTGGA GCCCTTGAACGAGAGGAAGCATAACCTGCTGGCCTCCAAAGAGATCCATCAGTTCAACAGGGATGTGGAGGACGA GATC1TGTGGGTTGGAGAGAGGGTGCCTTTGGCAACTTCCACGGATCATGGCCACAACCTCCAGACTGTGCAGCT GTTAATAAAGAAAATCAGACCCTCCAGAAAGAAATCCAGGGGCACCAGCCTCGCATTGACGACATCTTTGAGAG GCTGTGGGGTCTCCTCATTGAGGAGACAGAGAAACGCCACAGGCGGCTGGAGGAGGCGCACAGGGCCCAGCAGTA GGATGAGCAGAGTGCTGTCTCCATGTTGAAGAAGCACCAGATCTTAGAACAAGCTGTGGAGGACTATGCAGAGAC CGTGCATCAGCTCTCCAAGACCAGCCGGGCCCTGGTGGCCGACAGCCATCCTGAAAGTGAGCGCATTAGCATGCG GTCCCATGAACTGGGACAGGACTATGAGCATGTCACGATGTTACAAGAACGATTCCGGGGAGTTTGCCCGAGACAC TGCCGCCACCATCGCTGAATGGAAGGATGGCCTCAATGAAGCCTGGGCCGACCTCCTGGAGCTCATTGACACAAG AACACAGATTCTTGCCGCTTCCTATGAACTGCACAAGTTTTACCACGATGCCAAGGAGATCTTTGGGCGTATACA GGACAAACACAAGAAACTCCCTGAGGAGCTTGGGAGAGATCAGAACACAGTGGAGACCTTACAGAGAATGCACAC TACATTTGAGCATGACATCCAGGCTCTGGGCACACAGGTGAGGCAGCTGCAGGAGGATGCAGCCCGCCTCCAGGC GGCCTATGCGGGTGACAAGGCCGACGATATCCAGAAGCGCGAGAACGAGGTCCTGGAAGCCTGGAAGTCCCTCCT GGACGCCTGTGAGAGCCGCAGGGTGCGGCTGGTGGACACAGGGGACAAGTTCCGCTTCTTCAGCATGGTGCGCGA CCTCATGCTCTGGATGGAGGATGTCATCCGGCAGATCGAGGCCCAGGAGAAGCCAAGGGATGTATCATCTGTTGA ACTCTTAATGAATAATCATCAAGGCATCAAAGCTGAAATTGATGCACGTAATGACAGTTTCACAACCTGCATTGA ACTTGGGAAATCCCTGTTGGCGAGAAAACACTATGCATCTGAGGAGATCAAGGAAAAATTACTGCAGTTGACGGA AAAGAGGAAAGAATGATCGACAAGTGGGAAGACCGATGGGAATGGTTAAGACTGATTCTGGAGGTCCATCAGTT CTCAAGAGACGCCAGTGTGGCCGAGGCCTGGCTGCTTGGACAGGAGCCGTACCTATCCAGCCGAGAGATAGGCCA GAGCGTGGACGAGGTGGAGAAGCTCATCAAGCGCCACGAGGCATTTGAAAAGTCTGCAGCAACCTGGGATGAGAG GAGGCGGCCCTTCTCCCGAGCCGAGCACGAAGGTTTCAGAGGAAGCCGAGTCCCAGCAGCAGTGGGATACTTC AAAAGGAGAACAAGTTTCCCAAAACGGTTTGCCAGCTGAACAGGGATCTCCACGGATGGCAGAAACGGTGGACAC AAGCGAAATGGTCAACGGCGCTACAGAACAAAGGACGAGCTCTAAAGAGTCCAGCCCCATCCCCTCCCCGACCTC GGCCCAGATGGAAGGCTTCCTCAATCGGAAACACGAGTGGGAGGCCCACAATAAGAAAGCCTCAAGCAGGTCCTG GCACAATGTTTATTGTGTCATAAATAACCAAGAAATGGGTTTCTACAAAGATGCAAAGACTGCTGCTTCTGGAAT TCCCTACCACAGCGAGGTCCCTGTGAGTTTGAAAGAAGCTGTCTGCGAAGTGGCCCTTGATTACAAAAAGAAGAA ACACGTATTCAAGCTAAGACTAAATGATGGCAATGAGTACCTCTTCCAAGCCAAAGACGATGAGGAAATGAACAC

802/6881 FIGURE 746C

MTTTVATDYDNIEIQQQYSDVNNRWDVDDWDNENSSARLFERSRIKALADEREAVQKKTFTKWVNSHLARVSCRI TDLYTDLRDGRMLIKLLEVLSGERLPKPTKGRMRIHCLENVDKALQFLKEQRVHLENMGSHDIVDGNHRLTLGLI WTIILRFQIQDISVETEDNKEKKSAKDALLLWCQMKTAGYPNVNIHNFTTSWRDGMAFNALIHKHRPDLIDFDKL KKSNAHYNLQNAFNLAEQHLGLTKLLDPEDISVDHPDEKSIITYVVTYYHYFSKMKALAVEGKRIGKVLDNAIET EKMIEKYESLASDLLEWIEQTIIILNNRKFANSLVGVQQQLQAFNTYRTVEKPPKFTEKGNLEVLLFTIQSKMRA NNQKVYMPREGKLISDINKAWERLEKAEHERELALRNELIRQEKLEQLARRFDRKAAMRETWLSENQRLVSQDNF GFDLPAVEAATKKHEAIETDIAAYEERVQAVVAVARELEAENYHDIKRITARKDNVIRLWEYLLELLRARRQRLE ${\tt MNLGLQKIFQEMLYIMDWMDEMKVLVLSQDYGKHLLGVEDLLQKHTLVEADIGIQAERVRGVNASAQKFATDGEG}$ YKPCDPQVIRDRVAHMEFCYQELCQLAAERRARLEESRRLWKFFWEMAEEEGWIREKEKILSSDDYGKDLTSVMR LLSKHRAFEDEMSGRSGHFEQAIKEGEDMIAEEHFGSEKIRERIIYIREQWANLEQLSAIRKKRLEEASLLHQFQ $\mathtt{ADADDIDAWMLDILKIVSSSDVGHDEYSTQSLVKKHKDVAEEIANYRPTLDTLHEQASALPQEHAESPDVRGRLS}$ GIEERYKEVAELTRLRKQALQDTLALYKMFSEADACELWIDEKEQWLNNMQIPEKLEDLEVIQHRFESLEPEMNN QASRVAVVNQIARQLMHSGHPSEKEIKAQQDKLNTRWSQFRELVDRKKDALLSALSIQNYHLECNETKSWIREKT KVIESTQDLGNDLAGVMALQRKLTGMERDLVAIEAKLSDLQKEAEKLESEHPDQAQAILSRLAEISDVWEEMKTT ${ t LKNREASLGEASKLQQFLRDLDDFQSWLSRTQTAIASEDMPNTLTEAEKLLTQHENIKNEIDNYEEDYQKMRDMG}$ EMVTQGQTDAQYMFLRQRLQALDTGWNELHKMWENRQNLLSQSHAYQQFLRDTKQAEAFLNNQEYVLAHTEMPTT LEGAEAAIKKQEDFMTTMDANEEKINAVVETGRRLVSDGNINSDRIQEKVDSIDDRHRKNRETASELLMRLKDNR DLQKFLQDCQELSLWINEKMLTAQDMSYDEARNLHSKWLKHQAFMAELASNKEWLDKIEKEGMQLISEKPETEAV VKEKLTGLHKMWEVLESTTQTKAQRLFDANKAELFTQSCADLDKWLHGLESQIQSDDYGKHLTSVNILLKKQQML ENQMEVRKKEIEELQSQAQALSQEGKSTDEVDSKRLTVQTKFMELLEPLNERKHNLLASKEIHQFNRDVEDEILW VGERMPLATSTDHGHNLQTVQLLIKKNQTLQKEIQGHQPRIDDIFERSQNIVTDSSSLSAEAIRQRLADLKQLWG LLIEETEKRHRRLEEAHRAQQYYFDAAEAEAWMSEQELYMMSEEKAKDEQSAVSMLKKHQILEQAVEDYAETVHQ LSKTSRALVADSHPESERISMRQSKVDKLYAGLKDLAEERRGKLDERHRLFQLNREVDDLEQWIAEREVVAGSHE LGQDYEHVTMLQERFREFARDIGNIGQERVDTVNHLADELINSGHSDAATIAEWKDGLNEAWADLLELIDTRTQI LAASYELHKFYHDAKEIFGRIQDKHKKLPEELGRDQNTVETLQRMHTTFEHDIQALGTQVRQLQEDAARLQAAYA GDKADDIQKRENEVLEAWKSLLDACESRRVRLVDTGDKFRFFSMVRDLMLWMEDVIRQIEAQEKPRDVSSVELLM NNHQGIKAEIDARNDSFTTCIELGKSLLARKHYASEEIKEKLLQLTEKRKEMIDKWEDRWEWLRLILEVHQFSRD ASVAEAWLLGQEPYLSSREIGQSVDEVEKLIKRHEAFEKSAATWDERFSALERLTTLELLEVRRQQEEEERKRRP ${\tt PSPEPSTKVSEEAESQQQWDTSKGEQVSQNGLPAEQGSPRMAETVDTSEMVNGATEQRTSSKESSPIPSPTSDRK}$ AKTALPAQSAATLPARTQETPSAQMEGFLNRKHEWEAHNKKASSRSWHNVYCVINNQEMGFYKDAKTAASGIPYH SEVPVSLKEAVCEVALDYKKKKHVFKLRLNDGNEYLFQAKDDEEMNTWIQAISSAISSDKHEVSASTQSTPASSR AQTLPTSVVTITSESSPGKREKDKEKDKEKRFSLFGKKK

MQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRG GAKKRKKSYTTPKKNKHKRKKVKLAVLKYYKVDENGKISRLRRECPSDECGAGVFMASHFDRHYCGKCCLTYCF NKPEDK

GGCACGAGCAGAATCCAGGGGCCCGGGGCTGTAGATTCCTTGACAAGGATATCCTAGCGGCGAAACAACACCGTA $\tt CTGGGAGTCAGAACGTCTGGGTTCTAGTCTTGACTGCCATTAACTAGCGGTATGACATTGGAGAAGCTTTTTTGA$ $\verb|CCCTTCTGGATTTCCGTTTCCTTTTCTGTAAAATGAGGAGCTTGGAAGATCCGGAAAATGAGGCCCATAGGAAAC| \\$ TTGCTACGATTTCACACTATTTATAGGCAACTGCACAGTCTGTGTCAAAGAAGAGCATTAAGACAGTGGAGGCAT GGGTTTTCATCTGCTTACCCTGTGTGGACAGCTCAACTGTGTGCCTGGCCCTGGCCAACAGATGTGCTCAATGGG GCTGCTTTATCTCAGTATAGGCTTCTAGTAACAAAAAAGGAAGAAGGACCATGGAAATCTCAGTTATCTTCAACA AAATCTAAAAAGGTGGTAGAAGTATGGATTGGAATGACTATTGAGGAACTGGCCAGGGCAATGGAAAAAAACACA GATTATGTATATGAAGCTTTATTGAACACTGATATTGACATAGATTCACTGGAAGCAGACTCACATTTAGATGAA GTCTGGATCAAAGAAGTGATAACGAAGGCAGGGATGAAGTTAAAGTGGAGTAAATTAAAACAGGACAAAGTCAGA AAAAATAAAGATGCTGTAAGAAGGCCCCAGGCAGATCCAGCTTTATTAACCCCAAGGTCCCCAGTTGTTACTATA ATGGGCCATGTTGATCACGGGAAAACGACATTACTTGACAAATTTCGAAAAACTCAAGTGGCAGCAGTGGAAAACT GGAGGCATCACTCAGCACATTGGTGCCTTTCTTGTCTCTCTGCCTTCTGGGGAAAAGATAACTTTTCTTGATACT CCAGGACATGCTGCTTTCTCAGCAATGAGAGCCAGAGGTGCTCAGGTCACTGACATTGTCGTATTGGTTGTAGCT GCAGATGATGGAGTGATGAAACAAACTGTAGAATCTATTCAGCATGCCAAAGATGCACAGGTTCCTATTATCCTT GCCGTAAATAAATGTGACAAAGCTGAGGCTGATCCTGAGAAAGTGAAAAAAGAGCTGCTGGCTTACGATGTGGTA TGTGAAGATTATGGAGGTGATGTTCAAGCAGTGCCTGTCTCCGCACTTACGGGCGATAATCTGATGGCTTTGGCA GAGTCTTTCACAGACAAAGGAAGAGGTCTTGTTACTACAGCTATAATTCAAAGAGGAACTTTAAGAAAAGGCTCT GTTCTGGTTGCTGGAAAATGTTGGGCAAAAGTACGCTTAATGTTTGATGAAAATGGAAAAACAATTGATGAGGCC TCTGAGCCAAGGGCACGTGAAGTTGTTGACTGGAGGAAATATGAACAAGAACAGGAGAAAAGGTCAGGAGGATCTG AAAATAATAGAAGAAAAGCGAAAGGAACACAAAGAAGCACATCAGAAAGCCCGTGAGAAGTATGGCCATCTACTG AGAGATTCAAATGTACTTTCTGTGATTATTAAAGGTGATGTTGATGGTTCTGTTGAGGCCATTTTGAACATTATA GATACCTATGATGCTTCACACGAGTGTGAACTAGAATTAGTACATTTTGGAGTGGGTGATATAAGTGCAAATGAT GTTAACCTTGCTGAAACATTTGATGGTGTTATATATGGCTTTAATGTGAATGCAGGCAATGTTATCCAACAGTCA GCTGCAAAAAAGGAGTAAAAATTAAACTTCACAAAATAATTTACCGTCTTGTTGAAGATTTTGCAAGAGGAACTG AGCAGCAGATTACCCTGTGCTGTGGAAGAGCACCCAGTAGGTGAGGCATCTATACTAGCTACCTTCTCTGTAACA CTAACCCGTAATGGACATGTAATTTGGAAGGGCTCATTAACCTCATTGAAACACCCATAAAGATGACATTTCAATT GTCAAAACGGGAATGGATTGTGGTCTCAGTTTAGATGAAGACAATATGGAATTTCAAGTGGGAGACAGAATTGTT TGTTATGAAGAAAAGCAAATTCAAGCCAAGACTTCTTGGGATCCAGGATTT**TAA**AATTACATTAAAAATGTAAAT AACTCA

MNQKLLKLENLLRFHTIYRQLHSLCQRRALRQWRHGFSSAYPVWTAQLCAWPWPTDVLNGAALSQYRLLVTKKEE GPWKSQLSSTKSKKVVEVWIGMTIEELARAMEKNTDYVYEALLNTDIDIDSLEADSHLDEVWIKEVITKAGMKLK WSKLKQDKVRKNKDAVRRPQADPALLTPRSPVVTIMGHVDHGKTTLLDKFRKTQVAAVETGGITQHIGAFLVSLP SGEKITFLDTPGHAAFSAMRARGAQVTDIVVLVVAADDGVMKQTVESIQHAKDAQVPIILAVNKCDKAEADPEKV KKELLAYDVVCEDYGGDVQAVPVSALTGDNLMALAEATVALAEMLELKADPNGPVEGTVIESFTDKGRGLVTTAI IQRGTLRKGSVLVAGKCWAKVRLMFDENGKTIDEAYPSMPVGITGWRDLPSAGEEILEVESEPRAREVVDWRKYE QEQEKGQEDLKIIEEKRKEHKEAHQKAREKYGHLLWKKRSILRFLERKEQIPLKPKEKRERDSNVLSVIIKGDVD GSVEAILNIIDTYDASHECELELVHFGVGDISANDVNLAETFDGVIYGFNVNAGNVIQQSAAKKGVKIKLHKIIY RLVEDLQEELSSRLPCAVEEHPVGEASILATFSVTEGKKKVPVAGCRVQKGQLEKQKKFKLTRNGHVIWKGSLTS LKHHKDDISIVKTGMDCGLSLDEDNMEFQVGDRIVCYEEKQIQAKTSWDPGF

GCGTGCCGGCTGTCATGGCGGCCTGCAGGTACTGCTGCTCGTGCCTCCGGCTCCGGCCCCTGAGCGATGGTCCTT TCCTTCTGCCACGGCGGGATCGGGCACTCACCCAGTTGCAAGTGCGAGCACTATGGAGTAGCGCAGGGTCTCGAG CTGTGGCCGTGGACTTAGGCAACAGGAAATTAGAAATATCTTCTGGAAAGCTGGCCAGATTTGCAGATGGCTCTG CTGTAGTACAGTCAGGTGACACTGCAGTAATGGTCACAGCGGTCAGTAAAACAAAACCTTCCCCTTCCCAGTTTA TGCCTTTGGTGGTTGACTACAGACAAAAAGCTGCTGCAGCAGGTAGAATTCCCACAAACTATCTGAGAAGAGAGA TTGGTACTTCTGATAAAGAAATTCTAACAAGTCGAATAATAGATCGTTCAATTAGACCGCTCTTTCCAGCTGGCT ACTTCTATGATACACAGGTTCTGTGTAATCTGTTAGCAGTAGATGGTGTAAATGAGCCTGATGTCCTAGCAATTA ATGGCGCTTCCGTAGCCCTCTCATTATCAGATATTCCTTGGAATGGACCTGTTGGGGCAGTACGAATAGGAATAA TTGATGGAGAATATGTTGTTAACCCAACAAGAAAAGAATGTCTTCTAGTACTTTAAATTTAGTGGTTGCTGGAG CACCTAAAAGTCAGATTGTCATGTTGGAAGCCTCTGCAGAGAACATTTTACAGCAGGACTTTTGCCATGCTATCA AAGTGGGAGTGAAATATACCCAACAAATAATTCAGGGCATTCAGCAGTTGGTAAAAGAAACTGGTGTTACCAAGA GGACACCTCAGAAGTTATTTACCCCTTCGCCAGAGATTGTGAAATATACTCATAAACTTGCTATGGAGAGACTCT ATGCAGTTTTTACAGATTACGAGCATGACAAAGTTTCCAGAGATGAAGCTGTTAACAAAATAAGATTAGATACGG AGGAACAACTAAAAGAAAAATTTCCAGAAGCCGATCCATATGAAATAATAGAATCCTTCAATGTTGCTAAAGG AAGTTTTTAGAAGTATTGTTTTGAATGAATACAAAAGGTGCGATGGTCGGGATTTGACTTCACTTAGGAATGTAA GTTGTGAGGTAGATATGTTTAAAACCCTTCATGGATCAGCATTATTTCAAAGAGGACAAACACAGGTGCTTTGTA CCGTTACATTTGATTCATTAGAATCTGGTATTAAGTCAGATCAAGTTATAACAGCTATAAATGGGATAAAAGATA AAAATTTCATGCTGCACTACGAGTTTCCTCCTTATGCAACTAATGAAATTGGCAAAGTCACTGGTTTAAATAGAA GAGAACTTGGGCATGGTGCTCTTGCTGAGAAAGCTTTGTATCCTGTTATTCCCCGAGATTTTCCTTTCACCATAA GAGTTACATCTGAAGTCCTAGAGTCAAATGGGTCATCTTCTATGGCATCTGCATGTGGCGGAAGTTTAGCATTAA TGGATTCAGGGGTTCCAATTTCATCTGCTGTTGCAGGCGTAGCAATAGGATTGGTCACCAAAACCGATCCTGAGA AGGGTGAAATAGAAGATTATCGTTTGCTGACAGATATTTTGGGAATTGAAGATTACAATGGTGACATGGACTTCA AAATAGCTGGCACTAATAAAGGAATAACTGCATTACAGGCTGATATTAAATTACCTGGAATACCAATAAAAATTG TGATGGAGGCTATTCAACAAGCTTCAGTGGCAAAAAAGGAGATATTACAGATCATGAACAAAACTATTTCAAAAC CTCGAGCATCTAGAAAAGAAAATGGACCTGTTGTAGAAACTGTTCAGGTTCCATTATCAAAACGAGCAAAATTTG TTGGACCTGGTGGCTATAACTTAAAAAAACTTCAGGCTGAAACAGGTGTAACTATTAGTCAGGTGGATGAAGAAA CGTTTTCTGTATTTGCACCAACACCCAGTGCTATGCATGAGGCAAGAGACTTCATTACTGAAATCTGCAAGGATG ATCAGGAGCAGCAATTAGAATTTGGAGCAGTATATACCGCCACAATAACTGAAATCAGAGATACTGGTGAATGG CTGCCCTAGGATTAGAAGTTGGCCAAGAAATTCAGGTGAAATACTTTGGACGTGACCCAGCCGATGGAAGAATGA GGCTTTCTCGAAAAGTGCTTCAGTCGCCAGCTACAACCGTGGTCAGAACTTTGAATGACAGAAGTAGTATTGTAA TTGTCTAGGGTGATGTGCTGTAGAGCAACATTTTAGTAGTATCTTCCATTGTGTAGATTTCTATATAATATAAAT ACATTTTAATTATTTGTACTAAAATGCTCATTTACATGTGCCATTTTTTTAATTCGAGTAACCCATATTTGTTTA TTCCTACATCTTATTTTTCTTCTTTGTATACAGTAGTGACAGTTTACCTTCAGTCATCCTACAGGTCACCTCTGT GCCCAACAACTTTACTTGCCTACAACGGTTCACAAACTGGAACAGGCCATATTCAAAGCCAGTGCCTATTTCTTC AGAACTGTTAACAGATATAGTGAGTTGAGGGAGCTAATCTGATACACTTTTGATAATATAATGCCTTTCAAATTA GTTACCAAATCATAAACAGAGTGGAATAAATATAAATGAGATTCTAACTAGGATGAATGTGGTAGTAATGATGTA TCCTGGCTAACACGGTGAAACCCCGTCTCTACTAAAAGTGCAAAAATTAGCCGGGCGTGGTGGCGCATGCCTGTA ATCCTAGCTACTCAGGAGGCTGAGGCAGAAGAATCACTTCAACCCAGGAGGTGGAGGTTGTAGTGAGCCGAGATT GCGCCATTGCACTCCAGCTCAGGCAACAAGAGCAAAACTCCGTCTC

MAACRYCCSCLRLRPLSDGPFLLPRRDRALTQLQVRALWSSAGSRAVAVDLGNRKLEISSGKLARFADGSAVVQS
GDTAVMVTAVSKTKPSPSQFMPLVVDYRQKAAAAGRIPTNYLRREIGTSDKEILTSRIIDRSIRPLFPAGYFYDT
QVLCNLLAVDGVNEPDVLAINGASVALSLSDIPWNGPVGAVRIGIIDGEYVVNPTRKEMSSSTLNLVVAGAPKSQ
IVMLEASAENILQQDFCHAIKVGVKYTQQIIQGIQQLVKETGVTKRTPQKLFTPSPEIVKYTHKLAMERLYAVFT
DYEHDKVSRDEAVNKIRLDTEEQLKEKFPEADPYEIIESFNVVAKEVFRSIVLNEYKRCDGRDLTSLRNVSCEVD
MFKTLHGSALFQRGQTQVLCTVTFDSLESGIKSDQVITAINGIKDKNFMLHYEFPPYATNEIGKVTGLNRRELGH
GALAEKALYPVIPRDFPFTIRVTSEVLESNGSSSMASACGGSLALMDSGVPISSAVAGVAIGLVTKTDPEKGEIE
DYRLLTDILGIEDYNGDMDFKIAGTNKGITALQADIKLPGIPIKIVMEAIQQASVAKKEILQIMNKTISKPRASR
KENGPVVETVQVPLSKRAKFVGPGGYNLKKLQAETGVTISQVDEETFSVFAPTPSAMHEARDFITEICKDDQEQQ
LEFGAVYTATITEIRDTGVMVKLYPNMTAVLLHNTQLDQRKIKHPTALGLEVGQEIQVKYFGRDPADGRMRLSRK
VLQSPATTVVRTLNDRSSIVMGEPISQSSSNSQ

- GACAAGATGGCCACACCGGCGGTACCAGCAAGTGCTCCTCCGGCCACGCCCAGGCCCAGTCCCGGCGGCGGTCCCA GCCTCTGCCCCAGCCTCAGTTCCAGCGCCAACGCCAGCACCGGCTGCGGCTCCGGTTCCCGCTGCGGCTCCAGCC TCATCCTCAGACCCTGCGGCAGCATCGGCTACAACTGCGGCTCCTGGCCAGACCCCGGCCTCAGCGCAAGCTCCA GCGCAGACCCCAGCGCCCGCTCTGCCTGGTCCTGCTCTTCCAGGGCCCTTCCCCGGCGGCGGCGGGTGGTCAGGCTG CACCCAGTCATTTTGGCCTCCATTGTGGACAGCTACGAGAGACGCAACGAGGTGCTGCCCGAGTTATCGGGACC CTGTTGGGAACTGTCGACAAACACTCAGTGGAGGTCACCAATTGCTTTTCAGTGCCGCACAATGAGTCAGAAGAT CTGGGCTGGTACGCCTACAGGCCATGACATCACAGAGCACTCTGTGCTGATCCATGAGTACTACAGCCGAGAGGCC CCCAACCCCATCCACCTCACTGTGGACACAAGTCTCCAGAACGGCCGCATGAGCATCAAAGCCTATGTCAGCACT TTAATGGGTGTCCCTGGGAGGACCATGGGAGTGATGTTCACACCTCTGACAGTGAAATACGCATACTATGACACT GAACGCATCGGAGTTGAGCTGATCATGAAGACCTGCTTTAGCCCCCAACAGAGTGATTGGACTCTTAAGTGACTTG CAGCAAGTAGGAGGGGCATCAGCTCGCATCCAGGATGCCCTGAGTACAGTGTTGCAATATGCAGAGGATGTACTG TCTGGAAAGGTGTCAGCTGACAATACTGTGGGCCGCTTCCTGATGAGCCTGGTTAACCGAGTACCGAAAATAGTT ${\tt CAGTCACAGATTGCCCTCAATGAAAAACTTGTAAACCTG} \underline{{\tt TGA}} \underline{{\tt TGA}} \underline{{\tt ATGGACCCCAAGCAGTACACTTGCTGGTCTAGG}}$ TATTAACCCCAGGACTCAGAAGTGAAGGAGAAATGGGTTTTTTGTGGTCTTGAGTCACACTGAGATAGTCAGTTG TGTGTGACTCTAATAAACGGAGCCTACCTTTTGT

MATPAVPASAPPATPAPVPAAVPASAPASVPAPTPAPAAAPVPAAAPASSSDPAAASATTAAPGQTPASAQAPAQ
TPAPALPGPALPGPFPGGRVVRLHPVILASIVDSYERRNEGAARVIGTLLGTVDKHSVEVTNCFSVPHNESEDEV
AVDMEFAKNMYELHKKVSPNELILGWYATGHDITEHSVLIHEYYSREAPNPIHLTVDTSLQNGRMSIKAYVSTLM
GVPGRTMGVMFTPLTVKYÄYYDTERIGVELIMKTCFSPNRVIGLLSDLQQVGGASARIQDALSTVLQYAEDVLSG
KVSADNTVGRFLMSLVNRVPKIVPDDFETMLNSNINDLLMVTYLANLTQSQIALNEKLVNL

GTTGGAGACTCGATTGTTGATGACAGCGGAAGAATGATAACAAAAATCCCGGAGCGAGATAGTGAGCCGTTCTCCA ACCCTTTGGCCCCTGATGGCCACGATGTGGATGATCCTCACTCTTCCACCAATCAAAACTCACCAATGAAGACT TCAGGAAACTTCTCATGACCCCCAGGGCTGCACCTACCTCTGCACCACCTTCTAAGTCACGTCACCATGAGATGC CAAGGGAGTACAATGAGGATGAAGACCCAGCTGCACGAAGGAGGAAAAAGAAAAGTTATTATGCTAAGCTACGCC AACAAGAAATTGAGAGAGAGAGAGCTAGCAGAAGTACCGGGGTCGTGCCAAGGAACGGAGAGATGGAGTGA ACAAAGATTATGAAGAAACCGAGCTTATCAACACCACAGCTAACTACAGGGCTGTTGGCCCCACTACTAAGGCGG ACAAATCAGCTGCAGAGAAGAGAAGACAGTTGATCCAGGAGTCCAAATTCTTGGGTGGTGACATGGAACACCC ATTTGGTGAAAGGCTTGGATTTTGCTCTGCTTCAAAAGGTACGAGCTGAGATTGCCAGCAAAGAGAAAAGAGAAAG GTCTGGGCCGCAATGTTTACCGAGTGCTTTTTAAGAACAAGCATATAAGCGGAATGAGTTGTTCCTGCCGGGCCG ${\tt CATGGCCTATGTGG} \underline{{\tt TAG}}{\tt GCCTGGATGATGAGTAAGCTGACACAGATATCCCCACCACTCTTATCCGCAGCAAGGT}$ TGACTGCCCCACCATGGAGGCCCAGACCATACTGACCACAAATGATATTGTCATTAGCAAGCTTACCCAGTTGCT TTCATACCTGAGGCAGGGAACCCGTAACAAGAAGCTTAAGAAGAAGGATAAAGGGAAGCTGGAAGAAGAAACC TGCTGAGGCTGACAGGAGTATTTTCGAAGACATTGGGGATTATACACCCTCCACAATCAAGACACCTTGGGACAA GGAGCGGGAGAGATATCGGGAACGGGAGCGTGATCAGGAGACAGAGACCGTGACCGAGAGCGAGACCGAGAACGA AAAGTACATGATGAGTCCGTGGACGTTGACAAAGGACCTGGGTCGGCCAAGGAGTTGATCAAGTCCATCAATGAA AAGTTTGCTGGGTCTGCTGGCTGGGAAGGCACAGAATCGCTGAAAATTGCAGAAGACAAAAAGCAGCTGAGAGAT GAGGTGGATTATAGCAAAATGGACCAGGGTAACAAGAAGAAGAACCTTAAGCCGTTGGGACTTTGATACCCAGGAA GACTACAGCGAGTATATGAACAACAAGAGGCTTTGCCCAAGGCTGCATTCCAGTATGGTATCAAAATGTCTGAA GGGCGGAAAACCAGACGCTTCAAGGAAACCAATGACAAAGCAGCGCTCGATTGCCAGTGGAAGATTAGTGCAATC ATTGAGAAGAGGAAGAAGATGGAAGCTGATGGGGTTGAAGTCAAAAGACCAAAATACTAA

MPERDSEPFSNPLAPDGHDVDDPHSFHQSKLTNEDFRKLLMTPRAAPTSAPPSKSRHHEMPREYNEDEDPAARRR KKKSYYAKLRQQEIERERELAEKYRGRAKERRDGVNKDYEETELINTTANYRAVGPTTKADKSAAEKRRQLIQES KFLGGDMEHTHLVKGLDFALLQKVRAEIASKEKEEEELMEKPQKETKKDEDPENKIEFKTRLGRNVYRVLFKNKH ISGMSCSCRAAWPMW

ATCCCCGAGAATGTGGCACCCCGGAGCGGGGCGACTGCCGGGGGTGCCGGCGGCGGGAAAGGCGCCTATCAG GACCGCGACAAGCCAGATCCGCTTCAGCAACATTTCCGCCGCCAAAGCGGTTGCTGATGCTATTAGAACA AGCCTTGGACCAAAAGGAATGGATAAAATGATTCAAGATGGAAAAGGTGATGTAACCATTACAAATGATGGTGCT ACCATTCTGAAACAAATGCAAGTATTACATCCAGCAGCCAGAATGCTGGTGGAGCTGTCTAAGGCTCAAGATATA GAAGCAGGAGATGGCACCACATCAGTAGTCATCATTGCTGGCTCCCTCTTAGATTCTTGTACCAAGCTTCTTCAG ATGTCTCGACCTGTGGAACTGAGTGACAGAGAAACTTTGTTAAATAGTGCAACCACTTCACTGAACTCAAAGGTG GTTTCTCAGTATTCAAGTCTGCTTTCTCCAATGAGTGTAAATGCAGTGATGAAAGTGATTGACCCAGCCACAGCC ACCAGTGTAGATCTTAGAGATATTAAAATAGTTAAGAAGCTTGGTGGGACAATTGATGACTGTGAGTTGGTGGAA GGGCTGGTTCTCACCCAAAAAGTGTCAAATTCTGGCATAACCAGAGTTGAAAAAGGCCAAGATTGGGCTTATTCAG TTTTGCTTATCTGCTCCCAAAACAGACATGGATAATCAAATAGTGGTTTCTGACTATGCCCAGATGGACCGAGTG CTGCGAGAGAGAGAGCCTATATTTTAAATTTAGTGAAGCAAATTAAAAAAACAGGATGTAATGTCCTTCTCATA CAGAAATCTATTCTAAGAGATGCTCTTAGTGATCTTGCATTACACTTTCTGAATAAAATGAAGATCATGGTGATT AAGGATATTGAAAGAGAAGACATTGAATTCATTTGTAAGACAATTGGAACCAAGCCAGTTGCTCATATTGACCAA TTTACTGCTGACATGCTGGGTTCTGCTGAGTTAGCTGAGGAGGTCAATTTAAATGGTTCTGGCAAACTGCTCAAG ATTACAGGCTGTGCCAGCCCTGGAAAAACAGTTACAATTGTTGTTCGTGGTTCTAACAAACTGGTGATTGAAGAA GCTGAGCGCTCCATTCATGATGCCCTATGTGTTATTCGTTGTTTAGTGAAGAAGAGGGCTCTTATTGCAGGAGGT GGTGCTCCAGAAATAGAGTTGGCCCTAGCATTAACTGAATATTCACGAACACTGAGTGGTATGGAATCCTACTGC GTTCGTGCTTTTGCAGATGCTATGGAGGTCATTCCATCTACACTAGCTGAAAATGCCGGCCTGAATCCCATTTCT ACAGTAACAGAACTAAGAAACCGGCATGCCCAGGGAGAAAAAACTGCAGGCATTAATGTCCGAAAGGGTGGTATT GTTCGGAGCATTCTGAAAATAGATGATGTGGTAAACACTCGA<u>TAA</u>TCTGGATAACTGACTAGCACCATTATGATC ACCAGTATTGTGGCTGGAATGGAAGAAGATCACCTTGGTGTTCCTTGTTTGGAAGATTATTTCCTCTGAATTTCT GGGCTTGGTCTTCCAGTTGGCATTTGCCTGAAGTTGTATTGAAACAATTTAATGAAAAATATTAAATAATTTGGTTT CAAAAGGCAGATTTATCTTCTCCCAACATTCTGTTATTTCTGATACTTTTGAAAAACTAATAAAAACTAATAAAA GAAGCGTA

MPENVAPRSGATAGAAGGRGKGAYQDRDKPAQIRFSNISAAKAVADAIRTSLGPKGMDKMIQDGKGDVTITNDGA
TILKQMQVLHPAARMLVELSKAQDIEAGDGTTSVVIIAGSLLDSCTKLLQKGIHPTIISESFQKALEKGIEILTD
MSRPVELSDRETLLNSATTSLNSKVVSQYSSLLSPMSVNAVMKVIDPATATSVDLRDIKIVKKLGGTIDDCELVE
GLVLTQKVSNSGITRVEKAKIGLIQFCLSAPKTDMDNQIVVSDYAQMDRVLREERAYILNLVKQIKKTGCNVLLI
QKSILRDALSDLALHFLNKMKIMVIKDIEREDIEFICKTIGTKPVAHIDQFTADMLGSAELAEEVNLNGSGKLLK
ITGCASPGKTVTIVVRGSNKLVIEEAERSIHDALCVIRCLVKKRALIAGGGAPEIELALALTEYSRTLSGMESYC
VRAFADAMEVIPSTLAENAGLNPISTVTELRNRHAQGEKTAGINVRKGGISNILEELVVQPLLVSVSALTLATET
VRSILKIDDVVNTR

FIGURE 761A

 ${\tt AGGAAGGAAGGAGCAGTTGGTTCAATCTCTGGTAATCT} \underline{{\tt ATG}} {\tt CCAGCAATTATGACAATGTTAGCAGACCATGCAG}$ CTCGTCAGCTGCTTGATTTCAGCCAAAAACTGGATATCAACTTATTAGATAATGTGGTGAATTGCTTATACCATG GAGAAGGAGCCCAGCAAAGAATGGCTCAAGAAGTACTGACACATTTAAAGGAGCATCCTGATGCTTGGACAAGAG TCGACACAATTTTGGAATTTTCTCAGAATATGAATACGAAATACTATGGACTACAAATTTTTGGAAAATGTGATAA AAACAAGGTGGAAGATTCTTCCAAGGAACCAGTGCGAAGGAATAAAAAAATACGTTGTTGGCCTCATTATCAAGA CGTCATCTGACCCAACTTGTGTAGAGAAAGAAAAGGTGTATATCGGAAAATTAAATATGATCCTTGTTCAGATAC TGAAACAAGAATGGCCCAAACATTGGCCAACTTTTATCAGTGATATTGTTGGAGCAAGTAGGACCAGCGAAAGTC TCTGTCAAAATAATATGGTGATTCTTAAACTCTTGAGTGAAGAAGTATTTGATTTCTCTAGTGGACAGATAACCC AAGTCAAATCTAAGCATTTAAAAGACAGCATGTGCAATGAATTCTCACAGATATTTCAACTGTGTCAGTTTGTAA TGGAAAATTCTCAAAATGCTCCACTTGTACATGCAACCTTGGAAACATTGCTCAGATTTCTGAACTGGATTCCCC TGGGATATATTTTTGAGACCAAATTAATCAGCACATTGATTTATAAGTTCCTGAATGTTCCAATGTTTCGAAATG TCTCTCTGAAGTGCCTCACTGAGATTGCTGGTGTGAGTGTAAGCCAATATGAAGAACAATTTGTAACACTATTTA CTCTGACAATGATGCAACTAAAGCAGATGCTTCCTTTAAATACCAATATTCGACTTGCGTACTCAAATGGAAAAG ATGATGAACAGAACTTCATTCAAAATCTCAGTTTGTTTCTCTGCACCTTTCTTAAGGAACATGATCAACTTATAG AAAAAAGATTAAATCTCAGGGAAACTCTTATGGAGGCCCTTCATTATATGTTGTTGGTATCTGAAGTAGAAGAAA CATCTGCCTCTCCGTTGCTTTCTGGAAGTCAACATTTTGATGTTCCTCCCAGGAGACAGCTATATTTGCCCATGT TATTCAAGGTCCGTTTATTAATGGTTAGTCGAATGGCTAAACCAGAGGAAGTATTGGTTGTAGAGAATGATCAAG GAGAAGTTGTGAGAGAATTCATGAAGGATACAGATTCCATAAATTTGTATAAGAATATGAGGGAAACATTGGTTT ATCTTACTCATCTGGATTATGTAGATACAGAAAGAATAATGACAGAGAAGCTTCACAATCAAGTGAATGGTACAG AGTGGTCATGGAAAAATTTGAATACATTGTGTTGGGCAATAGGCTCCATTAGTGGAGCAATGCATGAAGAGGACG AAAAACGATTTCTTGTTACTGTTATAAAGGATCTATTAGGATTATGTGAACAGAAAAGAGGCAAAGATAATAAAG CTATTATTGCATCAAATATCATGTACATAGTAGGTCAATACCCACGTTTTTTGAGAGCTCACTGGAAATTTCTGA AGACTGTAGTTAACAAGCTGTTCGAATTCATGCATGAGACCCATGATGGAGTCCAGGATATGGCTTGTGATACTT TCATTAAAATAGCCCAAAAATGCCGCAGGCATTTCGTTCAGGTTCAGGTTGGAGAAGTGATGCCATTTATTGATG AAATTTTGAACAACATTAACACTATTATTTGTGATCTTCAGCCTCAACAGGTTCATACGTTTTATGAAGCTGTGG GGTACATGATTGGTGCACAAACAGATCAAACAGTACAAGAGCACTTGATAGAAAAGTACATGTTACTCCCTAATC AAGTGTGGGATAGTATAATCCAGCAGGCAACCAAAAATGTGGATATACTGAAAGATCCTGAAACAGTCAAGCAGC TTGGTAGCATTTTGAAAACAAATGTGAGAGCCTGCAAAGCTGTTGGACACCCCTTTGTAATTCAGCTTGGAAGAA TTTATTTAGATATGCTTAATGTATACAAGTGCCTCAGTGAAAATATTTCTGCAGCTATCCAAGCTAATGGTGAAA TGGTTACAAAGCAACCATTGATTAGAAGTATGCGAACTGTAAAAAGGGAAACTTTAAAGTTAATATCTGGTTGGG TGAGCCGATCCAATGATCCACAGATGGTCGCTGAAAATTTTGTTCCCCCTCTGTTGGATGCAGTTCTCATTGATT ATCAGAGAAATGTCCCAGCTGCTAGAGAACCAGAAGTGCTTAGTACTATGGCCATAATTGTCAACAAGTTAGGGG TTGAAGAATATCCTGAACATAGAACGAACTTTTTCTTACTACTTCAGGCTGTCAATTCTCATTGTTTCCCAGCAT TCCTTGCTATTCCACCTACACAGTTTAAACTTGTTTTGGATTCCATCATTTGGGCTTTCAAACATACTATGAGGA ATGTCGCAGATACGGGCTTACAGATACTTTTTACACTCTTACAAAATGTTGCACAAGAAGAAGCTGCAGCTCAGA GTTTAACAATGCATGCATCAATTCTTGCATATATGTTTAATTTTGGTTGAAGAAGGAAAAATAAGTACATCATTAA ATCCTGGAAATCCAGTTAACAACCAAATCTTTCTTCAGGAATATGTGGCTAATCTCCTTAAGTCGGCCTTCCCTC ACCTACAAGATGCTCAAGTAAAGCTCTTTGTGACAGGGCTTTTCAGCTTAAATCAAGATATTCCTGCTTTCAAGG AACATTTAAGAGATTTCCTAGTTCAAATAAAGGAATTTGCAGGTGAAGACACTTCTGATTTGTTTTTGGAAGAGA ${\tt ATGAGATTCCAGAAGAAATGTGTGAT} {\color{red}{\underline{\textbf{TAA}}}} {\color{blue}{\textbf{AATCCAAATTCATGCTGTTTTTTTCTCTGCAACTCCGTTAGCAGA}}$ GGAAAACAGCATGTGGGTATTTGTCGACCAAAATGATGCCAATTTGTAAATTAAAATGTCACCTAGTGGCCCTTT TTCTTATGTGTTTTTTTGTATAAGAAATTTTCTGTGAAATATCCTTCCATTGTTTAAGCTTTTGTTTTGGTCATC TTTATTTAGTTTGCATGAAGTTGAAAATTAAGGCATTTTTAAAAATTTTACTTCATGCCCATTTTTGTGGCTGGG CTGGGGGGAGGAGGCAAATTCAATTTGAACATATACTTGTAATTCTAATGCAAAATTATACAATTTTTCCTGTAA

818/6881 FIGURE 761B

MPAIMTMLADHAARQLLDFSQKLDINLLDNVVNCLYHGEGAQQRMAQEVLTHLKEHPDAWTRVDTILEFSQNMNT
KYYGLQILENVIKTRWKILPRNQCEGIKKYVVGLIIKTSSDPTCVEKEKVYIGKLNMILVQILKQEWPKHWPTFI
SDIVGASRTSESLCQNNMVILKLLSEEVFDFSSGQITQVKSKHLKDSMCNEFSQIFQLCQFVMENSQNAPLVHAT
LETLLRFLNWIPLGYIFETKLISTLIYKFLNVPMFRNVSLKCLTEIAGVSVSQYEEQFVTLFTLTMMQLKQMLPL
NTNIRLAYSNGKDDEQNFIQNLSLFLCTFLKEHDQLIEKRLNLRETLMEALHYMLLVSEVEETEIFKICLEYWNH
LAAELYRESPFSTSASPLLSGSQHFDVPPRRQLYLPMLFKVRLLMVSRMAKPEEVLVVENDQGEVVREFMKDTDS
INLYKNMRETLVYLTHLDYVDTERIMTEKLHNQVNGTEWSWKNLNTLCWAIGSISGAMHEEDEKRFLVTVIKDLL
GLCEQKRGKDNKAIIASNIMYIVGQYPRFLRAHWKFLKTVVNKLFEFMHETHDGVQDMACDTFIKIAQKCRRHFV
QVQVGEVMPFIDEILNNINTIICDLQPQQVHTFYEAVGYMIGAQTDQTVQEHLIEKYMLLPNQVWDSIIQQATKN
VDILKDPETVKQLGSILKTNVRACKAVGHPFVIQLGRIYLDMLNVYKCLSENISAAIQANGEMVTKQPLIRSMRT
VKRETLKLISGWVSRSNDPQMVAENFVPPLLDAVLIDYQRNVPAAREPEVLSTMAIIVNKLGGHITAEIPQIFDA
VFECTLNMINKDFEEYPEHRTNFFLLLQAVNSHCFPAFLAIPPTQFKLVLDSIIWAFKHTMRNVADTGLQILFTL
LQNVAQEEAAAQSFYQTYFCDILQHIFSVVTDTSHTAGLTMHASILAYMFNLVEEGKISTSLNPGNPVNNQIFLQ
EYVANLLKSAFPHLQDAQVKLFVTGLFSLNQDIPAFKEHLRDFLVQIKEFAGEDTSDLFLEEREIALRQADEEKH
KRQMSVPGIFNPHEIPEEMCD

FIGURE 763

CTGACTCTCTGAGGCTCATTTTGCAGTTGTTGAAATTGTCCCCGCAGTTTTCAATC<u>ATG</u>TCTGAACCAATCAGAG TCCTTGTGACTGGAGCAGCTGGTCAAATTGCATATTCACTGCTGTACAGTATTGGAAATGGATCTGTCTTTGGTA AAGATCAGCCTATAATTCTTGTGCTGTTGGATATCACCCCCATGATGGGTGTCCTGGACGGTGTCCTAATGGAAC TGCAAGACTGTGCCCTTCCCCTCCTGAAAGATGTCATCGCAACAGATAAAGAAGACGTTGCCTTCAAAGACCTGG ATGTGGCCATTCTTGTGGGCTCCATGCCAAGAAGGGAAGGCATGGAGAAAAAGATTTACTGAAAGCAAATGTGA AAATCTTCAAATCCCAGGGTGCAGCCTTAGATAAATACGCCAAGAAGTCAGTTAAGGTTATTGTTGTGGGTAATC GTTTGGATCACAACCGAGCTAAAGCTCAAATTGCTCTTAAACTTGGTGTGACTGCTAATGATGTAAAGAATGTCA TTATCTGGGGAAACCATTCCTCGACTCAGTATCCAGATGTCAACCATGCCAAGGTGAAATTGCAAGGAAAGGAAG TTGGTGTTTATGAAGCTCTGAAAGATGACAGCTGGCTCAAGGGAGAATTTGTCACGACTGTGCAGCAGCGTGGCG CTGCTGTCATCAAGGCTCGAAAACTATCCAGTGCCATGTCTGCTGCAAAAGCCATCTGTGACCACGTCAGGGACA TCTGGTTTGGAACCCCAGAGGGAGAGTTTGTGTCCATGGGTGTTATCTCTGATGGCAACTCCTATGGTGTTCCTG ATGATCTGCTCTACTCATTCCCTGTTGTAATCAAGAATAAGACCTGGAAGTTTGTTGAAGGTCTCCCTATTAATG $\texttt{CCTCTGCC} \underline{\textbf{TGA}} \\ \texttt{CTAGACAATGATGTTACTAAATGCTTCAAAGCTGAAGAATCTAAATGTCGTCTTTGACTCAAGT} \\$ ACCAAATAATAATAATGCTATACTTAAATTACTTGTGAAAAACAACACATTTTAAAGATTACGTGCTTCTTGGTA

MSEPIRVLVTGAAGQIAYSLLYSIGNGSVFGKDQPIILVLLDITPMMGVLDGVLMELQDCALPLLKDVIATDKED VAFKDLDVAILVGSMPRREGMERKDLLKANVKIFKSQGAALDKYAKKSVKVIVVGNPANTNCLTASKSAPSIPKE NFSCLTRLDHNRAKAQIALKLGVTANDVKNVIIWGNHSSTQYPDVNHAKVKLQGKEVGVYEALKDDSWLKGEFVT TVQQRGAAVIKARKLSSAMSAAKAICDHVRDIWFGTPEGEFVSMGVISDGNSYGVPDDLLYSFPVVIKNKTWKFV EGLPINDFSREKMDLTAKELTEEKESAFEFLSSA

)

MSGALDVLQMKEEDVLKFLAAGTHLGGTNLDFQMEQYIYKRKSDGIYIINLKRTWEKLLLAARAIVAIENPADVS VISSRNTGQRAVLKFAAATGATPIAGRFTPGTFANQIQAAFREPRLLVVTDPRADHQPLMEASYVNLPTIALCNT DSPLHYVDIAIPCNNKGAHSVGLMWWMLAREVLRMRGTISCEHPWEVMPDLYFYRDPEEIEREEQAAAEKAVTKE EFQGEWTAPAPEFTVTQPEVADWSEGVQVPSVPIPY

MSGALDVLQMKEEDVLKFLAAGTHLGSTNLDFQMEQYIYKRKSDGIYIINLKRTWEKLLASLLEPSLTRSRQPSG SHGFLWLLIPGLTTSLSQRHLKLTYLPLLCVTQILLCAMWTLPSHATARELTQWV *

ATCAGAGAGGGCTACCTTGTGAAGAAGGGGAGCGTGTTCAATACGTGGAAACCCATGTGGGTTGTATTGTTAGAA GATGGAATTGAATTCTATAAGAAGAAAAGTGACAACAGCCCCAAAGGAATGATCCCGCTGAAAGGGAGCACTCTG ACTAGCCCTTGTCAAGACTTTGGCAAAAGGATGTTTGTGTTTAAGATCACTACGACCAAACAGCAGGACCACTTC TTCCAGGCAGCCTTCCTGGAGGAGAGAGATGCCTGGGTTCGGGATATCAAGAAGGCCATTAAATGCATTGAAGGA GGCCAGAAATTTGCCAGGAAATCTACCAGGAGGTCCATTCGACTGCCAGAAACCATTGACTTAGGTGCCTTATAT TTGTCCATGAAAGACACTGAAAAAGGAATAAAAGAACTGAATCTAGAGAAGACAAGAAGATTTTTAATCACTGC TTCACAGGTAACTGCGTCATTGATTGGCTGGTATCCAACCAGTCTGTTAGGAATCGCCAGGAAGGCCTCATGATT GAAAACCCTTTCCTGGACAACCCTGATGCCTTCTACTACTTTCCAGACAGTGGGTTCTTCTGTGAAGAGAATTCC AGTGATGATGATGTGATTCTGAAAĠAAGAATTCAGAGGGGTCATTATCAAGCAGGGATGTTTACTGAAGCAGGGG CATAGAAGGAAAACTGGAAAGTGAGGAAGTTCATCTTGAGAGAAGACCCTGCCTACCTGCACTACTATGACCCT GCTGGGGCAGAAGATCCCCTGGGAGCAATTCACTTGAGAGGCTGTGTGGTGACTTCAGTGGAGAGCAACTCAAAT GGCAGGAAGAGTGAGGAAGAGAACCTTTTTGAGATCATCACAGCAGATGAAGTGCACTATTTCTTGCAAGCAGCC ACCCCCAAGGAGCGCACAGAGTGGATCAGAGCCATCCAGATGGCCTCCCGAACTGGGAAGTAAAGAGACTCCTGC ATTCCTCCTCCCTCCTGAGGGAAGCCCATGGACAAGCTCAGTCCAGGACCTGTCCACTTCTGTGACAAATCAAC GGGAAACAGCCCAGGGGTGGGAAGTTTTCATTTGCAGGGGGGTCTGAATGTAACTCACCATGTGGTGTGCAAGGT TCCCCTGCATTGTATTGCTCACTGCAGCCCCTCTGCCCCTATCCATGACCCCCAAGCAGATATAACAAGCTGTGC AGCCTCAGTAGGCTGCTTGCCCTCTCCAGGCCTCAGGGCCTCTTCTGGAAAATGAAGAAATTCAACTAGTAGATT CCTGAGGTCCCCCTAGCTTAAAAAAAAAAAAAATCTGCCCCATGATTCTAACACTCGCAGTAGTGATAGTGTATC TAGTTGTTCTGCTGGTGTCCTTCGTTGGCTAAGTCTTGGCCTTCAGTTATCTTCAAATGTACCAGAACCTGAGCC AACGCCTCCCTGTGAAACTGTTGCTGATCTGTAGTACAGTACCAGGAAGAAACCTCTTTTGTTCTCTTTAGACAT AAAAACTTCCCGAGAGCAGTGGTGGTTTTGAGGGTTTTGACTTCTATTACTTTTGGCAGCCTGGAAAGTTGTGTC TTCTGGGAAAGAGACCTGGGGAGGCCAGGAGTAGCTGAGGGTCCTTTCTGTGCCCTTAAACCGCCCAGAGGAGCC CTATTCCACTCTGGTTTTAGGCTGATCTGAGAGGGTCTCCCTTTGTTCCTTTCTGGAGCATTTCTCTAACGTTTA GATGTGTTCCCCCCATGGGTGAGAGGCCTGGGCAACTGCCTGGTGAATGTGTCTTGCGGCAGCTGCAGCAAGTGG AGGGGCTGAACTACTGGCCAGCTCACTGGATGATGGGTTAATACAACAACTGCACTGTAAGGACTCAGAGCCACA CAGAACTTCTGAGAGGGGCTGTTAGCATTGCGCAGCATCTTCAGTTCTCCAGTAAATGATATTGCGTTCGTGCCT CAGCTTTAAGCACAAGTAGCAGCAGCTCCTGCTTGAGTTCTGAGGGCATCATGGCCCTATGATTAACCAGAGTGA TTGAGAAAGACAGCACCCATTGAAGCAGATATGTGTGTGAAAGTATATTTTTCAATTCCAGATTTTTAATTTTAA GGCTCCAGGAAAGAAAGGAGAGTAGAACATTTTTCCTCATTTTATCAAATCCTCTCTTGCCCTCCAATTCCC CTGTAACATTCCTGAAGCTGTTCCCACTCCCAGATGGTTTTATCAATAGCCTAGAGGTAAAGAACTGTCTTTTTC GGGAAGTCAACTTAATGTTTTGAAATAAATATATGACTCTGTTTAAT

CCAGTAGAAATTCACGAGTATTTGTCAGCGTTTGAGAATTCCATTGGTGCTGTGGATGAGATGCTGAAGACCATG ATGTCTGTTTCTAGAAATGAGTTGTTGCAGAAGTTGGATCCACTTGAACAAGCAAAAGTGGATTTGGTTTCTGCA TACACATTAAATTCAATGTTTTGGGTTTATTTGGCAACCCAAGGAGTTAATCCTAAGGAACATCCAGTAAAACAG GAATTGGAAAGAATCAGAGTATATATGAACAGAGTCAAGGAAATAACAGACAAGAAAAAAGGCTGGCAAGCTGGAC ${\tt AGAGGTGCAGCTTCAAGATTTGTAAAAAATGCCCTCTGGGAACCAAAATCGAAAAATGCATCAAAAGTTGCCAAT}$ AAAGGAAAAAGTAAAAGTTAACTTTTTGGTTTTGATGTACACATATTCAAAAAGTACATTAATATGTAAATTCAC AGTAAATATGTAAAGCTAAATACTTTCCTCTCCAAAGATCATTATCTTTATTGATTAGCACTGAGGATTTTAACA TTGTGATATATATATATATATATATACCATCTCTTGATGAGACTCTTATTTCTTTATATAGGTCAGTCTTGCA AGTACCATTTTATAAGCAGCTGTGAAATTTAAGTGAAATGTTCTTTGTAAACATTTGTACTATTTTAAATGAATA ATGACCTTATGAAGTATGCTATCTGTAGGCTGAAATTATAGGTACATCTGTTTTCACTATATGATATTAAGAAAG CGTGAAATGACTTAAATGTTCATTTTTTCTGTATAGATACTTTATCATGTTTTCATGATTTTAGGAATTACTGC TTTGTTGATATTCAAAGTGTGAAACTAAAACTTTATGGTTGTACTTTAATTCTTGGCATGTTGCCTCTATGTCCC ATGACTGTACTCTCAATAAAGGCTGAAAATGTTGT

CCTTCACTTCGCCCTCCAGCTGCTGCAGCTGCAGCCCGACCGCGAGCGTGCCAAGCGGCTTCAGCAGCTAGCGGA
GCGGTGGCGGCGCCCCGCTCAGGAGACCACCAGATTCCCCTCTTCCCGCGGCCTCGCCATGGCGACCCACGGAC
AGACTTGCGCGCGTCCAATGTGTATTCCTCCATCATATGCTGACCTTGGCAAAGCTGCCAGAGATATTTTCAACA
AAGGATTTGGTTTTGGGTTGGTGAAACTGGATGTGAAAACAAAGTCTTGCAGTGGCGTGGAATTTTCAACGTCCG
GTTCATCTAATACAGACACTGGTAAAGTTACTGGGACCCTGGAGACCAAATACAAGTGGTGTGAGTATGGTCTGA
CTTTCACAGAAAAGTGGAACACTGATAACACTCTGGGAACAGAAATCGCAATTGAAGACCAGATTTGTCAAGGTT
TGAAACTGACATTTGATACTACCTTCTCACCAAATCAAAGCTGACAAGGAATAACTTTGCAGTGGGCTACAGGAC
TGGGGACTTCCAGCTACACACTAATGTCAATGATGGGACAGAATTTTGGAGGATCAATTTATCAGAAAGTTTGTGA
AGATCTTGACACTTCAGTAAACCTTGCTTGGACATCAGGTACCAACTGCACTCGTTTTGGCATTGCAGCTAAATA
TCAGTTGGATCCCACTGCTTCCATTTCTGCAAAAGTCAACACTCTAGCTTAATTGGAGTAGGCTATACTCAGAC

AGCTGCTGCAGCCGAGCCGAGCGTGCCAAGCGGCTTCAGCAGCTAGCGGAGCGGTGGCGGCCCCC GCTCAGGAGACCACCAGATTCCCCTCTTCCCGCGGCCTCGCCATGGCGACCCACGGACAGACTTGCGCGCGTCCA ATGTGTATTCCTCCATCATATGCTGACCTTGGCAAAGCTGCCAGAGATATTTTCAACAAAGGATTTGGTTTTTGGG TTGGTGAAACTGGATGTGAAAACAAAGTCTTGCAGTGGCGTGGAATTTTCAACGTCCGGTTCATCTAATACAGAC ACTGGTAAAGTTACTGGGACCCTGGAGACCAAATACAAGTGGTGTGAGTATGGTCTGACTTTCACAGAAAAGTGG ${\tt AACACTGATAACACTCTGGGAACAGAAATCGCAATTGAAGACCAGATTTGTCAAGGTTTGAAACTGACATTTGAT}$ ACTACCTTCTCACCAAACACAGGAAAGAAAGTGGTAAAATCAAGTCTTACAAGAGGGAGTGTATAAACCTTGGT GGCTACCAGATGACCTTTGACAGTGCCAAATCAAAGCTGACAAGGAATAACTTTGCAGTGGGCTACAGGACTGGG GACTTCCAGCTACACCTAATGTCAATGATGGGACAGAATTTGGAGGATCAATTTATCAGAAAGTTTGTGAAGAT CTTGACACTTCAGTAAACCTTGCTTGGACATCAGGTACCAACTGCACTCGTTTTGGCATTGCAGCTAAATATCAG TTGGATCCCACTGCTTCCATTTCTGCAAAAGTCAACAACTCTAGCTTAATTGGAGTAGGCTATACTCAGACTCTG AGGCCTGGTGTAAGCTTACACTCTCTGCTCTGGTAGACGGGAAGAGCATTAATGCTGGAGGCCACAAGGTTGGG CTCGCCCTGGAGTTGGAGGCTTAATCCAGCTGAAAGAAACCTTTGGGAATGGATATCAGAAGATTTGGCCTTAAT ATATTTCCATTGTGACCAGCAGCAGCATTTTTCCCCCAAGAAGATGATCAAAACAAAGGATGATCTCAACAAGA GCTGTATTTTAAGTATTTAGACAGTTCTTTGTTAGCTGGTTTCTAGTTGAATTGGTTATCTAGTTACCAATGCTG CAGTCCTGCAGTCACCTATACATTATTTAAATGTATTTAACTGTTAAATGCGCTACCCACCAATAATGAAATAGA CCTTTATGAAAA

MATHGQTCARPMCIPPSYADLGKAARDIFNKGFGFGLVKLDVKTKSCSGVEFSTSGSSNTDTGKVTGTLETKYKW
CEYGLTFTEKWNTDNTLGTEIAIEDQICQGLKLTFDTTFSPNTGKKSGKIKSYKRECINLGCDVDFDFAGPAIHG
SAVFGYEGWLAGYQMTFDSAKSKLTRNNFAVGYRTGDFQLHTNVNDGTEFGGSIYQKVCEDLDTSVNLAWTSGTN
CTRFGIAAKYQLDPTASISAKVNNSSLIGVGYTQTLRPGVKLTLSALVDGKSINAGGHKVGLALELEA

GAGAAAACGGCCGGGCGGCGGTGGCTGTAGGTTGTGCGGCTGCAGCGGCTCTTCCCTGGGCGGACGATGGACAGC CAGGGCAGGAAGGTGGTGTGCGACAACGGCACCGGGTTTGTGAAGTGTGGATATGCAGGCTCTAACTTTCCA GAACACATCTTCCCAGCTTTGGTTGGAAGACCTATTATCAGATCAACCACCAAAGTGGGAAACATTGAAATCAAG GATCTTATGGTTGGTGATGAGGCAAGTGAATTACGATCAATGTTAGAAGTTAACTACCCTATGGAAAATGGCATA GTACGAAATTGGGATGACATGAAACACCTGTGGGACTACACATTTGGACCAGAGAAACTTAATATAGATACCAGA GAAACTTACCAGTTTTCCGGTGTATATGTAGCCATCCAGGCAGTTCTGACTTTGTACGCTCAAGGTTTATTGACT GGTGTAGTGGTAGACTCTGGAGATGGTGTGACTCACATTTGCCCAGTATATGAAGGCTTTTCTCTCCCTCATCTT ACCAGGAGACTGGATATTGCTGGGAGGGATATAACTAGATATCTTATCAAGCTACTTCTGTTGCGAGGATACGCC TTCAACCACTCTGCTGATTTTGAAACGGTTCGCATGATTAAAGAAAAACTGTGTTACGTGGGATATAATATTGAG CAAGAGCAGAAACTGGCCTTAGAAACCACAGTATTAGTTGAATCTTATACACTCCCAGATGGACGTATCATAAA GTTGGGGGAGAGATTTGAAGCACCAGAAGCTTTATTTCAGCCTCACTTGATCAATGTTGAAGGAGTTGGTGTT GCTGAATTGCTTTTTAACACAATTCAGGCAGCTGACATTGATACCAGATCTGAATTCTACAAACACATTGTGCTT TCTGGAGGGTCTACTATGTATCCTGGCCTGCCATCACGGTTGGAACGAGAACTTAAACAGCTTTACTTAGAACGA GTTTTGAAGGGTGATGTGGAAAAACTTTCTAAATTTAAGATCCGCATTGAAGACCCCACCCCGCAGAAAGCACATG GTATTCCTGGGTGGTGCAGTTCTAGCGGATATCATGAAAGACAAAGACAACTTTTGGATGACCCGACAAGAGTAC CAAGAAAAGGGTGTCCGTGTGCTAGAGAAACTTGGTGTGACTGTTCGATAAACTCCAAAGCTTGTTCCCGTCATA CCCGTAATGCTTTCTTTTTTCCTTTATTGCCAATCTTTGAACTCATCCAGGACATGGAAGAGGCCTCTC TCTGCCCTTTGACTGGAAAGGTCAAGTTTTATTCTGGTGTCTTGGGGAAGCTTTGTTAAATTTTTGTTAATGTGG TCTAAGTAGGCATTTAGATCATTCCTATAGGCTTCCTATTTTCACTTTACTGCTCTAATGCTGCTAGTCGTAGTC TTTAGCACACTAGGTGGTATGCCTTTATTAGCATAAAACAAAAAAACTTTAACAGGAGCTTTTACATATTACTG GGATGGGGGGTGGTTCGGGATGGGTGGGCAGCTGCTGAACCCTTTAGGGCATTTCCTCTGTAATGTGGCGCTTTC AACTGTACTGCTGCAGCTTTAAGTACCTTAAAGCTTCTCCTGTGAACTTCTTAGGGAAATGTTAGGTTCAGAACT AAAGTGTTTTGGGTGGGTTTTGTTGCGGGGGGGGGGGTAACAATGGGTGGTCTTCTGATTTTTATTTTTGAGGTT TTGTCAACTGGAGTACGTAGAGGAACTTTATTTACAGTACTTTGATTTGGCAGGTTTTCTTCTACTTGTGCTCTG TTTTAAAATCAACCATGTTAGCTGGGATTAGACTCCCTACAGTCCTTCAATGGAAAAGTAACATTTAAAAATCCT TTGGGTAATTCGAATTACAGATTTAAAAGAGCTTAAGATCTGGTGTTTTGTTAATGCTTCTGTTTATTCCAGAAG CATTAAGGTAACCCATTGCCAAGTATCATTCTTGCAAATTATTCTTTTATATAACTGACCAGTGCTTAATAAAAC AAGCAGGTACTTACAAATAATTACTGGCAGTAGGTTATAATTGGTGGTTTAAAAAATAACATTGGAATACAGGACT TTCTCAGCCATCTTGAAGCTTGAAAGAAGAGTCTTTGGTATTTTGTAAACGTTAGCAGACTTTCCTGCCAGTGT CAGAAAATCCTATTTATGAATCCTGTCGGTATTCCTTGGTATCTGAAAAAAATACCAAATAGTACCATACATGAG TTATTTCTAAGTTTGAAAAATAAAAGAAATTGCATCACACTAATTACAAAATA

ATGGAGACACTTGTACAAGTGAATCTCTTTAGAAAGAGAGATTTACGCCAGGTACGTGGAACACAGTCTGAGCAG CACTGCACACCGTATCAAATCAGGTATCCTGTAGGAAGAGTACCTGGGGATGAAATCAACAAGTTCTTAGTGGAA TCTTCTCATTTCTTAGAATGTAATGTGGTTGGATGTTTGGAAATTGGTACGAAAGGGGAGAATCCTTTCCCCCAA TTAGGAAAATGGGGAGTGGGGGCAGAGGAAATGAAGCCCAGGTTCTTCATCGGATGGAAGTTCTCTGGTCAGTGT ACACAGTTTGCTCTTGAGAGGACTGATGGCCTGGGATATGTTATTGATGGTCCTGAAAGGGATCTGCGTTTGAAT CTGGCAGTACCCTCTGGTACCGCACAGACTTCAGGGGACCTTGAACAAGCTCCATTTTGTCTCCTGGAAGCTCAT TCCACCAGGTTTGAGTATGAGCTTCACCACTCGCTCCACCTTCTCCACCAACTACCAGTCCCTGGGCTCTGTCCA GGTGCCCAGCTAAGACGCTCGGCCAGTCAGCAGCATGACCAGTATCTCTGCAGGGGCTGGGGGGCTCTGGTTCCCA GATCTCCATGTCCCCCTCCACCAGCTTCTGGGGTGGCATGGGGTCTGGGGCCCTGGCCGTGGGGATGGCCAGGGT TCTGGCAGGATGGAAGACATCCAGAACAAGAAGGAGACCATGCAAAGCCTGAATGACTGCCTGGCCTCCTACCTG GACAGAGTGAGGAGACTGGATACCAAGAATCGGAAGCTGGAGAGCAAAATCCGGGAGCACCTGGAGAAGAAGGGA CCCCAAGTCAGAGACTGGAGCCATTACTTCAAGACCGTGGAGGACCTGAGGGCTCAGATCTTCGCAAATACTGTG GACAATGCCCGCATCGTTCTGCAAGTCGACAATGCCCATCTTGCTGATGACTTTAGAGTCAAGTATGTGACAGAG CTGGCCATGCGCCAGTCTATGGAGAGCGACATCCATGGGCTCCGCAAGGTCATTGATGACACCAATGTCACTCGG CTGCAGCTGGAAACAGAGATCGAGGCTCTCAAGGAGGAGCTGCTCTTCATGAAGAAGAACGAAGAAGGGGAAATA AAAGGCCTACAAGCCCAGATTGCCAGCTCTGGGTTGACTGTGGAGGTAGATATCCCCAAATCTCAGGACCTTGCC AAGCTCATGGCAGACATCTGGGCCCAATATGATGAGCTGGCTCGGAAGAGCCAAGAGGAGCTGGGCAAGTACTGG TCTCAGCAGATTGAGGAGAGTATCACAGTAGTCACCATGCAGTCCACCGAGATGGAGCAGTTCAACAGGATCCTG CTGCACCTGGAGTCAGAGCTGGCACAGACCTGGGCAGAGGGACAGTGCCAGGCCCAGGAGTACGAGGCCCTGCTG GTGGATGGCAAAGTGGGGTCTGAGACCAACAACACCAAAGTTCTGAGACAT**TAA**

METLVQVNLFRKRDLRQVRGTQSEQHCTPYQIRYPVGRVPGDEINKFLVESSHFLECNVVGCLEIGTKGENPFPQ
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SQQIEESITVVTMQSTEMEQFNRILLHLESELAQTWAEGQCQAQEYEALLSIRVKLEAEIATYHHLLEDTTTGRI
VDGKVGSETNNTKVLRH

836/6881 FIGURE 779A

ATGTCGCGGGGCTGGTAGCAGGGCGCCGGCCGAGCCGTCTCAAGTTTAAACTTACACGAATCGCTTTCTGGA AAAAAAAAATCTAGAAACCATCGGTATTTTGCTTTGCTGCTCCCTATTCGCAAGATGAAGAAGTTTTTCGACTC CCGGCGAGAGCAGGGCGGCTCTGGCCTGGGCTCCAGCGGAGGAGGGGGGCAGCACCTCGGGCCTGGGCAG TGGCTACATCGGAAGAGTCTTCGGCATCGGGCGACAGCAGGTCACAGTGGACGAGGTGTTGGCGGAAGGTGGATT TGCTATTGTATTTCTGGTGAGGACAAGCAATGGGATGAAATGTGCCTTGAAACGCATGTTTGTCAACAATGAGCA TGATCTCCAGGTGTGCAAGAGAAATCCAGATAATGAGGGATCTTTCAGGGCACAAGAATATTGTGGGTTACAT TGATTCTAGTATCAACAACGTGAGTAGCGGTGATGTATGGGAAGTGCTCATTCTGATGGACTTTTGTAGAGGTGG CCAGGTGGTAAACCTGATGAACCAGCGCCTGCAAACAGGCTTTACAGAGAATGAAGTGCTCCAGATATTTTGTGA TACCTGTGAAGCTGTTGCCCGCCTGCATCAGTGCAAAACTCCTATTATCCACCGGGACCTGAAGGTTGAAAACAT CCTCTTGCATGACCGAGGCCACTATGTCCTGTGTGACTTTGGAAGCGCCACCAACAAATTCCAGAATCCACAAAC TGAGGGAGTCAATGCAGTAGAAGATGAGATTAAGAAATACACAACGCTGTCCTATCGAGCACCAGAAATGGTCAA CTTCACTTTGCCATTTGGGGAAAGTCAGGTGGCAATTTGTGATGGAAACTTCACAATTCCTGATAATTCTCGATA TTCTCAAGACATGCACTGCCTAATTAGGTATATGTTGGAACCAGACCCTGACAAAAGGCCGGATATTTACCAGGT GTCCTACTTCTCATTTAAGCTACTCAAGAAAGAGTGCCCAATTCCAAATGTACAGAACTCTCCCATTCCTGCAAA GCTTCCTGAACCAGTGAAAGCCAGTGAGGCAGCTGCAAAAAAAGACCCAGCCAAAGGCCAGACTGACAGATCCCAT TCCCACCACAGAGACTTCAATTGCACCCCGCCAGAGGCCTAAAGCTGGGCAGACTCAGCCGAACCCAGGAATCCT TCCCATCCAGCCAGCGCTGACACCCCGGAAGAGGGCCCACTGTTCAGCCCCCACCTCAGGCTGCAGGATCCAGCAA GGCCAAGCAGCCACAGGCTCCTCCCACTCCACAGCAGACGCCTTCTACTCAGGCCCAGGGTCTGCCCGCTCAGGC CCAGGCCACCCCAGCACCAGCAGCAACTCTTCCTCAAGCAGCAACAGCAGCAGCAACAGCCACCGCCAGCACA GCAGCAGCCGGCAGGCACGTTTTACCAGCAGCAGCAGCCCAGACTCAGCAGTTTCAGGCAGTACATCCAGCAAC CCAGAAACCAGCAATTGCTCAGTTCCCTGTGGTGTCCCAAGGAGGCTCTCAACAGCAGCTAATGCAGAATTTCTA CCAGCAGCAGCAGCAGCAACAACAACAACAGCAACAGCTGGCCACAGCCCTGCATCAACAACAGCTGAT CCCACAGCCAGCCCTGCCCAGGAGCCAGCGATTCAAGCCCCAGTAAGACAACAGCCAAAGGTTCAGACAACCCC ACCTCCTGCCGTCCAGGGGCAGAAAGTTGGATCTCTCACTCCACCCTCATCCCCCAAAACCCAACGTGCTGGGCA CAGGCGTATTCTCAGTGACGTAACCCACAGTGCAGTCTTTGGGGTCCCTGCCAGCAAATCAACCCAGCTGCTCCA GGCAGCTGCAGCTGAGGCCAGTCTCAATAAGTCCAAGTCTGCAACCACCACTCCATCAGGCTCTCCTCGGACCTC TCAACAAAACGTTTATAATCCTTCAGAAGGGTCTACGTGGAATCCCTTTGATGACGATAATTTCTCCAAACTCAC AGCTGAAGAACTGCTAAACAAGGACTTTGCCAAGCTTGGGGAAGGCAAACATCCCGAGAAGCTTGGAGGCTCAGC TGAGAGTTTGATCCCAGGCTTTCAATCAACCCAAGGTGATGCTTTTGCTACGACCTCATTTTCTGCTGGAACTGC TGAAAAAGGAAGGGTGGGCAGACTGTGGACTCTGGCCTCCCGCTTCTAAGCGTGTCTGATCCTTTCATTCCTCT TCAAGTACCTGATGCACCAGAAAAACTAATTGAGGGACTCAAATCTCCTGACACTTCTCTTCTGCTCCCTGACCT CTTGCCTATGACAGATCCTTTTGGTAGCACTTCTGATGCTGTAATTGGTAAAGTCATCATCTCTGTTTCTTCAGT CATGCATGATATGTGTGCCTGTTTCAAGAATGACAAGTACCTAGTTAACCAATCCCTGGGGAATAGCCCTGCCAC CCCAGAAGCCAAGGCTATTTAATCTCACTTGTATCACTCCAAATGAAGTGTTTTCCTTGCTTTTCGGGGGTACAA GTTTCACATTTAGTTAGAAGAACTTTAAAAAATTGGTTTCTAACTAGACTACCTTTACTGAACTTAATGAAATTT AGCAGATTCTTCTTTTTTTTTTTTTTTGAGACAGAGTTTCACTCTTGTTGCCTAGGCTGGAGTGCAATGGCA AGATCTCAGCTCACTGCAACCTCCATCTCCCGGGTTCAAGCAATTCTCCTGCCTCAGCCTCCCGAGTAGCTGAGA TTACAGGCATGCACCACCATGCCTGGCTAATTTTTATATTTTTAGTAGAGATAGGGTTTCTCCATGTTGGTCAGG CTGGTCTCGAACTCCTGACCTCAGGTGATCCACCTGCCTTGGCCTCCCAAAGTGCTGGGATTACAGGGGTGAGCC

837/6881 FIGURE 779B

GCCCCAGGTGCGCTTCCCCTAGAGAGGGATTTTCCGGTCTCGTGGGCAGAGGAACAACCAGGAACTTGGGCTCAG TCTCCACCCCACAGTGGGGCGGATCCGTCCCGGATAAGACCCGCTGTCTGGCCCTGAGTAGGGTGTGACCTCCGC AGCCGCAGAGGAGGAGCGCAGCCCGGCCTCGAAGAACTTCTGCTTGGGTGGCTGAACTCTGATCTTGACCTAGAG TCATGGCCATGGCAACCAAAGGAGGTACTGTCAAAGCTGCTTCAGGATTCAATGCCATGGAAGATGCCCAGACCC TGAGGAAGGCCATGAAAGGGCTCGGCACCGATGAAGACGCCATTATTAGCGTCCTTGCCTACCGCAACACCGCCC AGCGCCAGGAGATCAGGACAGCCTACAAGAGCACCATCGGCAGGACTTGATAGACGACCTGAAGTCAGAACTGA GTGGCAACTTCGAGCAGGTGATTGTGGGGATGATGACGCCCACGGTGCTGTATGACGTGCAAGAGCTGCGAAGGG CCATGAAGGGAGCCGGCACTGATGAGGGCTGCCTAATTGAGATCCTGGCCTCCCGGACCCCTGAGGAGATCCGGC GCATAAGCCAAACCTACCAGCAGCAATATGGACGGAGCCTTGAAGATGACATTCGCTCTGACACATCGTTCATGT AGGATGCCCAGGACCTGTATGAGGCTGGAGAGAAATTGGGGGGACAGATGAGGTGAAATTTCTAACTGTTCTCT GTTCCCGGAACCGAAATCACCTGTTGCATGTGTTTGATGAATACAAAAGGATATCACAGAAGGATATTGAACAGA GTATTAAATCTGAAACATCTGGTAGCTTTGAAGATGCTCTGCTGGCTATAGTAAAGTGCATGAGGAACAAATCTG CATATTTTGCTGAAAAGCTCTATAAATCGATGAAGGGCTTGGGCACCGATGATAACACCCTCATCAGAGTGATGG TTTCTCGAGCAGAAATTGACATGTTGGATATCCGGGCACACTTCAAGAGACTCTATGGAAAGTCTCTGTACTCGT TCATCAAGGGTGACACATCTGGAGACTACAGGAAAGTACTGCTTGTTCTCTGTGGAGGAGATGATTAAAATAAAA CTATAATTAGTCATTATGATGCTTTAAAGCTGTACTTGCATTTCAAAGCTTATAAGATATAAATGGAGATTTTAA AGTAGAAATAAATATGTATTCCATGTTTTTAAAAGATTACTTTCTACTTTGTGTTTCACAGACATTGAATATATT AAATTATTCCATATTTTCTTTTCAGTGAAAAATTTTTTAAATGGAAGACTGTTCTAAAATCACTTTTTTCCCTAA TCCAATTTTTAGAGTGGCTAGTAGTTTCTTCATTTGAAATTGTAAGCATCCGGTCAGTAAGAATGCCCATCCAGT TTTCTATATTTCATAGTCAAAGCCTTGAAAGCATCTACAAATCTCTTTTTTTAGGTTTTGTCCATAGCATCAGTT GATCCTTACTAAGTTTTTCATGGGAGACTTCCTTCATCACATCTTATGTTGAAATCACTTTCTGTAGTCAAAGTA TACCAAAACCAATTTATCTGAACTAAATTCTAAAGTATGGTTATACAAACCATATACATCTGGTTACCAAACATA CAAACTAGGTATTCTGGGAATGATGTAATGCTCTGAATTTAGTATGATATAAAGAAAACTTTTTTGTGCTAAAAA TACTTTTTAAAATCAATTTTGTTGATTGTAGTAATTTCTATTTGCACTGTGCCTTTCAACTCCAGAAACATTCTG AAGATGTACTTGGATTTAATTAAAAAGTTCACTTTGT

MAMATKGGTVKAASGFNAMEDAQTLRKAMKGLGTDEDAIISVLAYRNTAQRQEIRTAYKSTIGRDLIDDLKSELS GNFEQVIVGMMTPTVLYDVQELRRAMKGAGTDEGCLIEILASRTPEEIRRISQTYQQQYGRSLEDDIRSDTSFMF QRVLVSLSAGGRDEGNYLDDALVRQDAQDLYEAGEKKWGTDEVKFLTVLCSRNRNHLLHVFDEYKRISQKDIEQS IKSETSGSFEDALLAIVKCMRNKSAYFAEKLYKSMKGLGTDDNTLIRVMVSRAEIDMLDIRAHFKRLYGKSLYSF IKGDTSGDYRKVLLVLCGGDD

GCCCCTGCGACTACGCTGCGGCCTCCCGCTCCCGCTCCCGCGGCCCTCGCTCGCCTCGCCTCGCGCCGGCAG TTTTGGGCCTACACCTCCCCCCCCCCCCCCCCAGCCGCCAAAGACTTGACCACGTAACGAGCCCAACTCCCCCGAAC GCCGCCCGCCGCCATGGATGCCGGTGTGACTGAAAGTGGACTAAATGTGACTCTCACCATTCGGCTTCTTA TGCACGGAAAGGAAGTAGGAAGCATCATTGGGAAGAAAGGGGAGTCGGTTAAGAGGATCCGCGAGGAGAGTGGCG CGCGGATCAACATCTCGGAGGGGAATTGTCCGGAGAGAATCATCACTCTGACCGGCCCCACCAATGCCATCTTTA AGGCTTTCGCTATGATCATCGACAAGCTGGAGGAAGATATCAACAGCTCCATGACCAACAGTACCGCGGCCAGCA GGCCCCGGTCACCCTGAGGCTGGTGGTGCCGGCCACCCAGTGCGGCTCCCTGATTGGGAAAGGCGGGTGTAAGA TCAAAGAGATCCGCGAGAGTACGGGGGGCGCAGGTCCAGGTGGCGGGGGATATGCTGCCCAACTCCACCGAGCGGG CCATCACCATCGCTGGCGTGCCGCAGTCTGTCACCGAGTGTGTCAAGCAGATTTGCCTGGTCATGCTGGAGACGC TCTCCCAGTCTCCGCAAGGGAGAGTCATGACCATTCCGTACCAGCCCATGCCGGCCAGCTCCCCAGTCATCTGCG CGGGCGGCCAAGATCGGTGCAGCGACGCTGCGGGCTACCCCCATGCCACCCATGACCTGGAGGGACCACCTCTAG ATGCCTACTCGATTCAAGGACAACACCATTTCTCCGCTCGATCTGGCCAAGCTGAACCAGGTGGCAAGACAAC AGTCTCACTTTGCCATGATGCACGGCGGGACCGGATTCGCCGGAATTGACTCCAGCTCTCCAGAGGTGAAAGGCT ATTGGGCAAGTTTGGATGCATCTACTCAAACCACCCATGAACTCACCATTCCAAATAACTTAATTGGCTGCATAA TCGGGCGCCAAGGCGCCAACATTAATGAGATCCGCCAGATGTCCGGGGCCCAGATCAAAATTGCCAACCCAGTGG AAGGCTCCTCTGGTAGGCAGGTTACTATCACTGGCTCTGCTGCCAGTATTAGTCTGGCCCAGTATCTAATCAATG CCAGGCTTTCCTCTGAGAAGGGCATGGGGTGCAGCTAGAACAGTGTAGGTTCCCTCAATAACCCCTTTCTGCTGT TCTCCCATGATCCAACTGTGTAATTTCTGGTCAGTGATTCCAGGTTTTAAATAATTTGTAAGTGTTCAGTTTCTA CACAACTTTATCATCCGCTAAGAATTTAAAAATCACATTCTCTGTTCAGCTGTTAATGCTGGGATCCATATTTAG TTTTATAAGCTTTTCCCTGTTTTTAGTTTTTGTTTTTGGGTTTTTTTGGCTCATGAATTTTATTTCTGTTTGTCGATA AGAAATGTAAGAGTGGAATGTTAATAAATTTCAGTTTAGTTCTGTAATGTCAAGAATTTAAGAATTAAAAAAACGG ATTGGTTAAAAAATGCTTCATATTTGAAAAAGCTGGGAATTGCTGTCTT

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MAELQQLRVQEAMESMVKSLERENIRKMQGLMFRCSASCCEDSQASMKQVHQCIERCHVPLAQAQALVTSELEKF QDRLARCTMHCNDKAKDSIDAGSKELQVKQQLDSCVTKCVDDHMHLIPTMTKKMKEALLSIGK

845/6881 FIGURE 787A

ATGGAACCTGCAGGTTTTTGGTGCAGGAGGACAAGCCAGCATGTGTCTGCCATTCTGGGTACGTTGGTGCACGCT CCATCGTGGCCCTGGCTGTCCTTATCATCACATGTGTGCTGATACACTGCTGCCAGGTCCGAAAACACTGTGAGT GGTGCCGGGCCCTCATCTGCCGGCACGAGAAGCCCAGCGCCCTCCTGAAGGGAAGAACCGCTTGCTGCCACTCAG CAGGACAGCACTGCCAGAGATGCCTGGGTGTGCCACAGACCTTCCTACTTGGCCTGTAATCACCTGTGCAGCCTT TTGTGGGCCTTCAAAACTCTGTCAAGAACTCCGTCTGCTTGGGGTTATTCAGTGTGACCTAGAGAAGAAATCAGC GGACCACGATTTCAAGACTTGTTAAAAAAGAACTGCAAAGAGACGGACTCCTGTTCACCTAGGTGAGGTGTGTGC TAATGGGCCACCTCCCCACAACAGAATTCTGCCCAACACAGGAGATTTCTATAGTTATTGTTTTCTGTCATTTGC CTACTGGGGAAGAAGTGAAGGAGGGGAAACTGTTTAATATCACATGAAGACCCTAGCTTTAAGAGAAGCTGTAT CCTCTAACCACGAGACCCTCAACCAGCCCAACATCTTCCATGGACACATGACATTGAAGACCATCCCAAGCTATC GCCACCCTTGGAGATGATGTCTTATTTATTAGATGGATAATGGTTTTATTTTAATCTCTTAAGTCAATGTAAAA TCTGGCCTCTTCAAGACAGCTAAGGCTTGGGAAAAGTCTTCCAGGGTGCGGAGATGGAACCAGAGGCTGGGTTAC TGGTAGGAATAAAGGTAGGGGTTCAGAAATGGTGCCATTGAAGCCACAAAGCCGGTAAATGCCTCAATACGTTCT CACAGGATAAACCCAATACATATTGTACTGCTCAGTGATTAAATGGGTTCACTTCCTCGTGAGCCCTCGGTAAGT ATGTTTAGAAATAGAACATTAGCCACGAGCCATAGGCATTTCAGGCCAAATCCATGAAAGGGGGACCAGTCATTT ATTTTCCATTTTGTTGCTTGGTTTGTTTGTTTATTTTTAAAAGGAGAAGTTTAACTTTGCTATTTTTTC GAGCACTAGGAAAACTATTCCAGTAATTTTTTTTTCCTCATTTCCATTCAGGATGCCGGCTTTATTAACAAAAAC TCTAACAAGTCACCTCCACTATGTGGGTCTTCCTTTCCCCTCAAGAGAAGGAGCAATTGTTCCCCTGAGCATCTG GGTCCATCTGACCCATGGGGCCTGCCTGTGAGAAACAGTGGGTCCCTTCAAATACATAGTGGATAGCTCATCCCT AGGAATTTTCATTAAAATTTGGAAACAGAGTAATGAAGAAATAATATATAAACTCCTTATGTGAGGAAATGCTAC TAATATCTGAAAAGTGAAAGATTTCTATGTATTAACTCTTAAGTGCACCTAGCTTATTACATCGTGAAAGGTACA TTTAAAATATGTTAAATTGGCTTGAAATTTTCAGAGAATTTTGTCTTCCCCTAATTCTTCCTTGGTCTGGAA GAACAATTTCTATGAATTTTCTCTTTTATTTTTTTTTATAATTCAGACAATTCTATGACCCGTGTCTTCATTTTTG GCACTCTTATTTAACAATGCCACACCTGAAGCACTTGGATCTGTTCAGAGCTGACCCCCTAGCAACGTAGTTGAC ACAGCTCCAGGTTTTTAAATTACTAAAATAAGTTCAAGTTTACATCCCTTGGGCCAGATATGTGGGTTGAGGCTT AAGAGACTTTGCAGAGGCGTAGGAATGAGGCTGGACAGATGGCGGAAGCAGAGGTTCCCTGCGAAGACTTGAGAT TTAGTGTCTGTGAATGTTCTAGTTCCTAGGTCCAGCAAGTCACACCTGCCAGTGCCCTCATCCTTATGCCTGTAA GGTCTGAAAAAGAGGCTGCATCAATGCAAGCCTGGTTGGACCATTGTCCATGCCTCAGGATAGAACAGCCTGGCT TATTTGGGGATTTTTCTTCTAGAAATCAAATGACTGATAAGCATTGGATCCCTCTGCCATTTAATGGCAATGGTA GTCTTTGGTTAGCTGCAAAAATACTCCATTTCAAGTTAAAAATGCATCTTCTAATCCATCTCTGCAAGCTCCCTG TGTTTCCTTGCCCTTTAGAAAATGAATTGTTCACTACAATTAGAGAATCATTTAACATCCTGACCTGGTAAGCTG CCACACACCTGGCAGTGGGGAGCATCGCTGTTTCCAATGGCTCAGGAGACAATGAAAAGCCCCCCATTTAAAAAAA TAACAAACATTTTTTAAAAGGCCTCCAATACTCTTATGGAGCCTGGATTTTTCCCACTGCTCTACAGGCTGTGAC TTTTTTTAAGCATCCTGACAGGAAATGTTTTCTTCTACATGGAAAGATAGACAGCAGCCAACCCTGATCTGGAAG ACAGGGCCCCGGCTGGACACGTGGAACCAAGCCAGGGATGGGCTGGCCATTGTGTCCCCGCAGGAGAGATGGG AGGGAGGAGAATTTGTGCTTCTGGAGCTTCTCAAGGGATTGTGTTTTGCAGGTACAGAAAACTGCCTGTTATCTT CAAGCCAGGTTTTCGAGGGCACATGGGTCACCAGTTGCTTTTTCAGTCAATTTGGCCGGGATGGACTAATGAGGC TCTAACACTGCTCAGGAGACCCCTGCCCTCTAGTTGGTTCTGGGCTTTGATCTCTTCCAACCTGCCCAGTCACAG AAGGAGGAATGACTCAAATGCCCAAAACCAAGAACACTTGCAGAAGTAAGACAAACATGTATATTTTAAATGT TCTAACATAAGACCTGTTCTCTCTAGCCATTGATTTACCAGGCTTTCTGAAAGATCTAGTGGTTCACACAGAGAG

846/6881 FIGURE 787B

847/6881 FIGURE 788A

ATTTCCTCCCAGCCTCGTGCGGGAAATGGCTTTAATTCTGACGGCAGGGCTGTGAGGGACTAGCGGGAACCCGAG CCTTTTGTCAAGGAACTGCGGCGTCGGTGGCCAGTCATCCCCGCCGCGGAGCCGCTGCACTGCTGGGGGATC TCCCAGCAGCTCTGACGAGCGCGGGCTGCAGCATGGGCAGAAAACGCTGCCCTGCAGATTAGCTGGGTGGATTTT GCCGCGCAGGAGTTTCCACCTGGATGTTTGAGGTTGTGTAGATGTGGCCGGCACCCTTGAGAGTGGAGCTAGGGG GTGCAGACTGAGCAGTGAACAGAAGGAGCCTTGGACAGGGCTGGGCCAGCCTCCCGAGTTCCAGGAGCGAATTGC AAACCCACCGGGAAAATGAGCGAAGAGACGGTCCCCGAGGCTGCCTCGCCGCCGCCCCCCGCAGGGGCAGCCTTAC TTTGACCGCTTCTCAGAGGACGACCCCGAGTACATGCGCCTTCGCAACCGGGCGGCGGACCTGCGGCAGGACTTC AACCTGATGGAGCAGAAGAAGCGCGTCACCATGATCCTGCAGAGTCCCTCTTTCAGGGAGGAGCTGGAAGGCCTC ATCCAGGAGCAGATGAAGAAGGGGAACAACTCCTCCAACATCTGGGCCCTGCGACAGATCGCGGACTTCATGGCC AGCACCTCCCACGCAGTCTTCCCGACATCTTCCATGAATGTCTCCATGATGACGCCTATCAATGACCTCCACACA GCTGACTCCCTGAACCTGGCCAAAGGGGAGCGGCTCATGCGGTGCAAGATCAGCAGTGTCTACCGACTCCTGGAC CTCTATGGCTGGGCCCAGCTGAGTGACACCTATGTCACGTTGAGAGTCAGCAAGGAGCAGGACCACTTCCTGATC AGCCCTAAGGGAGTTTCTTGCAGTGAAGTCACAGCGTCCAGCCTGATCAAGGTGAACATTCTGGGAAGATGGTG GACGTGCGCTGCATCATCCACCTGCACACACCGGCCACAGCAGCGGTGTCGGCCATGAAGTGGGGCCTCCTGCCT GTCTCCCACAATGCCCTGCTGGTGGGGGACATGGCCTATTATGACTTCAATGGGGAAATGGAGCAGGAAGCCGAT CGGATCAACCTGCAGAAGTGCCTTGGACCCACCTGCAAGATCCTGGTGCTAAGAAACCATGGAGTGGTTGCTCTG GGTGACACGGTAGAGGAGGCATTTTACAAGATCTTCCACCTGCAGGCTGCATGTGAGATACAGGTGTCGGCTCTG TCCAGTGCCGGGGGAGTGGAGAACCTCATCCTCCTGGAGCAGGAGAAGCACCGGCCCCATGAGGTGGGCTCCGTG CAGTGGGCCGGGAGCACCTTTGGGCCTATGCAGAAGAGTCGGCTGGGGGAGCATGAGTTTGAGGCCCTCATGAGG ATGCTGGACAACCTGGGCTACAGAACAGGTTACACGTATCGCCACCCCTTTGTTCAAGAGAAAACCAAACACAAA AGTGAGGTGGAGATTCCAGCCACGGTCACAGCCTTCGTGTTTGAGGAGGACGGTGCCCCGGTGCCCCCTGCGA GCCGATGAGGTCCAGAGGAGCATGGGCAGCCCCCGACCCAAGACCACGTGGATGAAGGCTGACGAGGTGGAGAAA TCCAGCAGTGGCATGCCGATTCGCATCGAAAACCCAAACCAATTTGTGCCTCTCTATACTGACCCCCAGGAAGTA CTGGAGATGAGGAACAAGATTCGAGAACAAAACCGACAAGATGTGAAGTCAGCGGGGCCTCAGTCCCAGCTCCTG GCGAGCGTCATTGCCGAGAAGAGCCGAAGCCCGTCTACAGAGAGCCAGCTGATGTCCAAGGGAGACGAGGATACC AAAGACGATTCAGAGGAGACGGTGCCCAACCCCTTCAGCCAACTCACTGACCAGGAGTTGGAGGAGTACAAGAAA TCTGCACCTGCTTCTCCAGTGCAGAGCCCAGCGAAGGAGGAGACAAAGAGCCCTTTAGTCTCTCCTTCCAAG GGGGTGG1GGTCAACGGGAGGAGGAGGAGCAGACGGCAGAAGATCCTCAGCAAAGGCCTGAGCCAGATGACC ACCAGTGCTGACACGGATGTTGATACCTCTAAGGACAAAACCGAGTCGGTCACCAGCGGCCCCATGTCCCCAGAG TCCCATCTCTGTCCCTGCAAGCACAGGGCTAAGGAGGGATAGAGTAGGACCCTGGACCACATTCGGAAGGGGAAC TTAGAGATCACCCGACCAACCCTTCGTTTTACAGTTGCCCAAGAGAAATCAGGTGACTTGCCCAAGGTCACACAG CTAGTTAGCGGCAGAGCCTGCACTCGAATTCAGGTCTCCTGACTTCCAGTGCTCCTTCTACTACACAACA $\tt CTGCCTAGTTGTGGGCCTGTCTTTGTTTGGATGCTGTCCACCAATCTGAGCCTAGGGCCAGAAGGCCCAGAAATGGG$ CCGTGAGCTCTCACAGGCTCAGACTAAATCAGAGGTCAAGGCTTCCCCTGAGTAAGGTCCATTTCTTCCCAGGAA TCCAATCTCCTGTGGATGGAGCTATCTCTACATTTAAAAATCTCTTCTCTTTTCCACTTTGGGTCCCTGCCCTGC TGCTCAAAGTGACTAGCCAAATTGACCCCTCCAACAGAAAGTAATCTTTGTTCCCAAGGGCTGATGGCTTAGCTT GGTAGGCATAGGGGCAAGCCATGTAAGCTGAGGATTGGGGATGGTTTCATCAACATAAGAGGCCAGGAACTTGAC CCCTTTGAATTGTGCATCTCAGGCACTTCAAAACTAAAACCAAATTTAGCATAGGAAAAAGTTGTTTAATGCTCA GGGCAGAAATTTGGGGAAGTTGAAATCCTCTGTTGGCTTTGGGTTGTATAAGGAGGATCAAAACAACAGAGGAAA TGCTGACTTTCTAGCTTTGCATGACACCTGGAGCAATGCACTGTACCTGCCTCACTCCTGTCCAGTGGTCAGGTT WO 2004/030615 PCT/US2003/028547

848/6881 FIGURE 788B

TCCCCTGACCTTCCCTCACCCCCAGAAACACTTGCTTACAGACCGAAACTGGCATCTTACTCTTGGCACCTTGAC
TTGCACCCTCTGAGGTTCCAACTCAGTCATTCTTTGTCCAGCAGAGGAGAATCAGAAATGAGCCCTTCAGGATTA
ATCCTCTTGCACCAGCTCTCAGAGAAATGCTGGGTATCCCTGTCCTTGTCCCTATCTGTCCATCCTGGGGCCTGG
TAATGGCCACAGTTATTGTTTTAAATGCCAACACTGTCTTCTCATGTTCTTCCGTGGGGCATTGATTAATGAGCA
TTTGTTGGCTCCTAAAAATTAGACAATCCATTCTCTTG

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849/6881 FIGURE 789

GCTTCGGCCGGACGCTGGCCCCGCTCCTGGCCTCGCTGCTGCCCCGGCTCCGTGCTTGTCCTTAGCGCCCGCA ACGACGAGGCACTGCGCCAGCTGGAGGCCGAGCTGGGCGGGTCTGGCCTGCGCGTGGTGCCCG CCGACCTGGGCCCGAGGCCGGCTTGCAGCAGCTGCTCGGCGCCCTGCGCGAGCTCCCCCGGCCCAAGGGGCTGC AGCGACTGCTGCTTATCAACAACGCGGGCTCTCTTGGGGATGTGTCCAAAGGCTTCGTGGACCTGAGTGACTCCA CTCAAGTGAACAACTACTGGGCACTGAACTTGACCTCCATGCTCTGCCTGACTTCCAGCGTCCTGAAGGCCTTCC CGGACAGTCCTGGCCTCAACAGAACCGTGGTTAACATCTCGTCCCTCTGTGCCCTGCAACCTTTCAAAGGCTGGG CGCTGTACTGTGCAGGAAAGGCTGCTCGTGATATGCTGTTCCAGGTCCTGGCGCTGGAGGAACCTAATGTGAGGG TGCTGAACTATGCCCCAGGTCCTCTGGACACAGACATGCAGCAGTTGGCCCGGGAGACCTCCGTGGACCCAGACA TGCGAAAAGGGCTGCAGGAGCTGAAGGCAAAGGGGAAGCTGGTGGATTGCAAGGTGTCAGCCCAGAAACTGCTGA ${\tt GCTTACTGGAAAAGGACGAGTTCAAGTCTGGAGCCCACGTGGACTTCTATGACAAA} \underline{{\tt TAAG}} {\tt GCCCATGTTTTTGGCT}$ TCCTGAACCTTTTTGCCCCCACTTTTAGACATACCCCAGAGCCCTGTGGCTCCCCACACCCTGCCATAGGGGCAG TTGGCCTTACCAGTTGTCAGGAGTCTGTGCTGTGCACCCTGGGTTATAAGGAGGCTTAGGAGAGAGGTTATGGGT ATTGGTGTCTCTATCCCCAGGAATAGAACTTAAGGGGTGGGAAGAACAGGAAAAGAAGCTGGAACACAGAAGAA GGAGGTTGTGTCTCTTGCTCATAGCAAGCCTGTGGGTAGAGGAAAGAGTGATCTGGTGTCGAATAGGAGGACCCA TGTAGATTCGCAGATGGCCTGGATGGGAGGAAGGGCAGACGGTACATGTCCCAGCCCACATAGATGCCCCTTGCT CCCCAGGCTGGGAGAAGGGGCTCCTGGGTGTCTGTATACACGCCAAAGGCAGATACAAATAAAATACAGATTGTC СТТТАААААААААААААААА

$$\label{thm:construction} \begin{align} MEGGLGRAVCLLTGASRGFGRTLAPLLASLLSPGSVLVLSARNDEALRQLEAELGAERSGLRVVRVPADLGAEAG\\ LQQLLGALRELPRPKGLQRLLLINNAGSLGDVSKGFVDLSDSTQVNNYWALNLTSMLCLTSSVLKAFPDSPGLNR\\ TVVNISSLCALQPFKGWALYCAGKAARDMLFQVLALEEPNVRVLNYAPGPLDTDMQQLARETSVDPDMRKGLQEL\\ KAKGKLVDCKVSAQKLLSLLEKDEFKSGAHVDFYDK\\ \end{align}$$

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852/6881 FIGURE **792**

GTTCCAAGGTTTGCGGCCCGGTCTCGGAGAAGAGGGGGAGAGTGGAGGGCCGCTGAATAAGCTTCCAAA**ATG**ATGC CCACACCAGTTATCCTATTGAAAGAGGGGACTGATAGCTCCCAAGGCATCCCCCAGCTTGTGAGTAACATCAGTG CCTGCCAGGTGATTGCTGAGGCTGTAAGAACTACCCTGGGTCCCCGTGGCATGGACAAGCTTATTGTAGATGGCA GAGGCAAAGCAACAATTTCTAATGATGGGGCCACAATTCTGAAACTTCTTGATGTTGTCCATCCTGCAGCAAAGA AGTTTCTGAAGCAGGTGAAACCCTATGTGGAGGAAGGTTTACACCCCCAGATCATCATTCGAGCTTTCCGCACAG CCACCCAGCTGGCAGTTAACAAGATCAAAGAGATTGCTGTGACCGTGAAGAAGGCAGATAAAGTGGAGCAGAGA TGGTGGTGGATGCAGTGATGCTCGATGATTTGCTGCAGCTTAAAATGATTGGAATCAAGAAGGTACAGGGTG GAGCCCTCGAGGATTCTCAGCTGGTAGCTGGTGTTGCATTCAAGAAGACTTTCTCTTACGCTGGGTTTGAAATGC AACCCAAAAAGTACCACAATCCCAAGATTGCCCTTTTGAATGTCGAGCTCGAGTTGAAAGCTGAGAAAGACAATG CTGAGATAAGAGTCCACACAGTTGAGGATTATCAGGCAATTGTTGATGCTGAGTGGAACATTCTCTATGACAAGT TAGAGAAGATCCATCATTCTGGAGCCAAAGTTGTCTTGTCCAAACTCCCCATTGGGGATGTGGCCACCCAGTACT TTGCTGACAGGGACATGTTCTGTGCTGGCCGAGTACCTGAGGAGGATCTGAAGAGGACAATGATGGCCTGTGGAG GCTCAATCCAGACCAGTGTGAATGCTCTGTCAGCAGATGTGCTGGGTCGATGCCAGGTGTTTGAAGAGACCCAGA TTGGAGGCGAGAGGTACAATTTTTTTACTGGCTGCCCCAAGGCCAAGACATGCACCTTCATTCTCCGTGGCGGCG CCGAGCAGTTTATGGAGGAGACAGAGCGGTCCCTGCATGATGCCATCATGATCGTCAGGAGGGCCATCAAGAATG ATTCAGTGGTGGCTGGCGGGGCCATTGAGATGGAACTCTCCAAGTACCTGCGGGATTACTCAAGGACTATTC CAGGAAAACAGCAGCTGTTGATTGGGGGCTTATGCCAAGGCCTTGGAGATTATCCCACGCCAGCTGTGTGACAATG CTGGCTTTGATGCCACAAACATTCTCAACAAGCTGCGGGGCTCGGCATGCCCAGGGGGGTACATGGTATGGAGTAG ACATCAACAACGAGGACATTGCTGACAACTTTGAAGCTTTCGTGTGGGAGCCAGCTATGGTGCGGATCAATGCGC TGACAGCAGCCTCTGAGGCTGCCTGATCGTGTCTGTAGATGAAACCATCAAGAACCCCCGCTCGACTGTGG $\tt ATGCTCCCACAGCAGCCGGGGCCGTGGTCGTGGCCGCCCCCAC\underline{\textbf{TGA}} GAGGCACCCCACCCATCACATGGCT$

MMPTPVILLKEGTDSSQGIPQLVSNISACQVIAEAVRTTLGPRGMDKLIVDGRGKATISNDGATILKLLDVVHPA
AKTLVDIAKSQDAEVGDGTTSVTLLAAEFLKQVKPYVEEGLHPQIIIRAFRTATQLAVNKIKEIAVTVKKADKVE
QRKLLEKCAMTALSSKLISQQKAFFAKMVVDAVMMLDDLLQLKMIGIKKVQGGALEDSQLVAGVAFKKTFSYAGF
EMQPKKYHNPKIALLNVELELKAEKDNAEIRVHTVEDYQAIVDAEWNILYDKLEKIHHSGAKVVLSKLPIGDVAT
QYFADRDMFCAGRVPEEDLKRTMMACGGSIQTSVNALSADVLGRCQVFEETQIGGERYNFFTGCPKAKTCTFILR
GGAEQFMEETERSLHDAIMIVRRAIKNDSVVAGGGAIEMELSKYLRDYSRTIPGKQQLLIGAYAKALEIIPRQLC
DNAGFDATNILNKLRARHAQGGTWYGVDINNEDIADNFEAFVWEPAMVRINALTAASEAACLIVSVDETIKNPRS
TVDAPTAAGRGRGRGRPH

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ATATAACCGCGTGGCCCGCGCGCGCTTCCCTCCCGGCGCAGTCACCGGCGCGGTCTATGGCTGCGACTTCTCT AATGTCTGCTTTGGCTGCCCGGCTGCTGCAGCCCGCGCACAGCTGCTCCCCTTCGCCCTTTCCACCTCGC GGCAGTTCGAAATGAAGCTGTTGTCATTTCTGGAAGGAAACTGGCCCAGCAGATCAAGCAGGAAGTGCGGCAGGA GGTAGAAGAGTGGGTGGCCTCAGGCAACAAACGGCCACACCTGAGTGTGATCCTGGTTGGCGAGAATCCTGCAAG TCACTCCTATGTCCTCAACAAAACCAGGGCAGCTGCAGTTGTGGGAATCAACAGTGAGACAATTATGAAACCAGC TTCAATTTCAGAGGAAGAATTGTTGAATTTAATCAATAAACTGAATAATGATGATAATGTAGATGGCCTCCTTGT TCAGTTGCCTCTTCCAGAGCATATTGATGAGAGAAGGATCTGCAATGCTGTTTCTCCAGACAAGGATGTTGATGG CTTTCATGTAATTAATGTAGGACGAATGTGTTTGGATCAGTATTCCATGTTACCGGCTACTCCATGGGGTGTGTG GGAAATAATCAAGCGAACTGGCATTCCAACCCTAGGGAAGAATGTGGTTGTGGCTGGAAGGTCAAAAAACGTTGG AATGCCCATTGCAATGTTACTGCACACAGATGGGGCGCATGAACGTCCCGGAGGTGATGCCACTGTTACAATATC TCATCGATATACTCCCAAAGAGCAGTTGAAGAAACATACAATTCTTGCAGATATTGTAATATCTGCTGCAGGTAT TCCTGTAACTGCCAAACCCAAGTTGGTTGGAGATGTGGATTTTGAAGGAGTCAGACAAAAAGCTGGGTATATCAC TCCAGTTCCTGGAGGTGTTGGCCCCATGACAGTGGCAATGCTAATGAAGAATACCATTATTGCTGCAAAAAAGGT $\tt GCTGAGGCTTGAAGAGCGAGAAGTGCTGAAGTCTAAAGAGCTTGGGGTAGCCACTAAT\underline{TAA}CTACTGTGTCTTCT$ GTGTCACAAACAGCACTCCAGGCCAGCTCAAGAAGCAAAGCAGGCCAATAGAAATGCAATATTTTTAATTTATTC CAGTACCTCACCAGGGAGCATTCCAGTATCATGCAGGGTCCTGTGATCTAGCCAGGAGCAGCCATTAACCTAGTG ATTAATATGGGAGACATTACCATATGGAGGATGGATGCTTCACTTTGTCAAGCACCTCAGTTACACATTCGCCTT TTCTAGGATTGCATTTCCCAAGTGCTATTGCAATAACAGTTGATACTCATTTTAGGTACCAGACCTTTTGAGTTC GAGCAGAAAAAATTAATTTATATATGTATTGATTGGCAACCAGATTTATCTAAGTAGAACTGAATTGGCTAGGA AAAAAGAAAACTGCATGTTAATCATTTTCCTAAGCTGTCCTTTTGAGGCTTAGTCAGTTTATTGGGAAAATGTT AGGACTGAAAGGATTCTTTTCTACATTATACATGTGTGTTGTCATATTTTGGCTTTTTGCTATATACTTTAACTTCA GTGATGTATGTATCCTGTTGACTTTTCCAGAAATTTTTTAAGAGTTTGAGTTACTATTGAATTTAATCAGACTTT

MSALAARLLQPAHSCSLRLRPFHLAAVRNEAVVISGRKLAQQIKQEVRQEVEEWVASGNKRPHLSVILVGENPAS
HSYVLNKTRAAAVVGINSETIMKPASISEEELLNLINKLNNDDNVDGLLVQLPLPEHIDERRICNAVSPDKDVDG
FHVINVGRMCLDQYSMLPATPWGVWEIIKRTGIPTLGKNVVVAGRSKNVGMPIAMLLHTDGAHERPGGDATVTIS
HRYTPKEQLKKHTILADIVISAAGIPNLITADMIKEGAAVIDVGINRVHDPVTAKPKLVGDVDFEGVRQKAGYIT
PVPGGVGPMTVAMLMKNTIIAAKKVLRLEEREVLKSKELGVATN

GGAAAATTTGTCACAGCAGCCAGAGGGGTTTAACAGGAGTGCAGAGGGATAAGGGCAGCTTCTGCCCTCTGCCCA AGAGCTGGCCACCTCTTTAAAGACTGAGGGAACAGTGGGGAGGAACTGTGGGACAGTGTGGTACCTATCTGTC GACCTGAATATGCTCTACATTCGGCAGATGGCACTCAGCCTGGAGGACACGGAGTTGCAGAGGAAGCTAGACCAT GAGATCCGGATGAGGGAAGGGGCCTGTAAGCTGCTGGCAGCCTGCTCCCAGCGAGAGCAGGCTCTGGAGGCCACC AAGAGCCTGCTAGTGTGCAACAGCCGCATCCTCAGCTACATGGGCGAGCTGCAGCGGCGCAAGGAGGCGCAGGTG CTGGGGAAGACAAGCCGGCGGCCTTCTGACAGTGGCCCGCCGCTGAGCGCTCCCCCTGCCGCGGCCGGGTCTGC ATCTCTGACCTCCGGATTCCACTCATGTGGAAGGACACAGAATATTTCAAGAACAAAGGTGACTTGCACCGCTGG GCTGTGTTCCTGCTGCTGCAGCTGGGGGAACACATCCAGGACACAGAGATGATCCTAGTGGACAGGACCCTCACA GACATCTCCTTTCAGAGCAATGTGCTCTTCGCTGAGGCGGGGCCAGACTTTGAACTGCGGTTAGAGCTGTATGGG GCCTGTGTGGAAGAAGAGGGGCCCTGACTGGCGGCCCCAAGAGGCTTGCCACCAAACTCAGCAGCTCCCTGGGC CGCTCCTCAGGGAGGCGTGTCCGGGCATCGCTGGACAGTGCTGGGGGGTTCAGGGAGCAGTCCCATCTTGCTCCCC ACCCCAGTTGTTGGTGGTCCTCGTTACCACCTCTTGGCTCACACCACACTCACCCTGGCAGCAGTGCAAGATGGA TGCCGTCTGGCAGCTCAGCCTCTGCATGACTCAGCCCACTGCAAGTGGTACCCTCAGGGTGCAGCAAGCTGGG GAGATGCAGAACTGGGCACAAGTGCATGGAGTTCTGAAAGGCACAAACCTCTTCTGTTACCGGCAACCTGAGGAT GCAGACACTGGGGAAGAGCCGCTGCTTACTATTGCTGTCAACAAGGAGACTCGAGTCCGGGCAGGGGAGCTGGAC CAGGCTCTAGGACGGCCCTTCACCCTAAGCATCAGTAACCAGTATGGGGATGATGAGGTGACACACCCCTTCAG ACAGAAAGTCGGGAAGCACTGCAGAGCTGGATGGAGGCTCTGTGGCAGCTTTTCTTTGACATGAGCCAATGGAAG CAGTGCTGTGATGAAATCATGAAAATTGAAACTCCTGCTCCCCGGAAACCACCCCAAGCACTGGCAAAGCAGGGG GGCGCAAGGCTGGAGACACCCCCACCCTGGCTGGCAATGTTTACAGACCAGCCTGCCCTAACCCCTGCTCG CCTGCCTCAGTGGCCCCAGCCCCAGACTGGACCCACCCCCTGCCCTGGGGGAGACCCCGAACCTTTTCCCTGGAT GCTGTCCCCCAGACCACTCCCCTAGGGCTCGCTCGGTTGCCCCCCTCCCACCTCAGCGATCCCCACGGACCAGA ${\tt GGCCTCTGCAGCAAAGGCCAACCTCGCACTTGGCTCCAGTCACCAGTG} {\tt TGA}{\tt GAGAAAAGGTGCTGGCATAGGAT}$ CTGCCCAGAAGAGAAAATGACCCATGCGCAGTTGGGCTCTGGATACGGCGCTGTCTATAGCAAGTTGGCCAGTCT GGCCTCCTGTTCCTCTGCTGGACCTGGGGTAGGCTGCAGGGGTGGGCAGAAGCCCCTCTTAAATTGTGGTTGCCA TGGTACCGAGGGACTCATTCCTGGGGCTCGCTGGGACCTCCCTAAACCCTTCCTGGAAGAAAACTGGAACCAACT CTGCCCTACCTCCCTGCACTAACCAGCTTTGAGGATGGCACTGAAGAACCCTTGGAGCAAACATACCTCCCTTGT

MQDRLHILEDLNMLYIRQMALSLEDTELQRKLDHEIRMREGACKLLAACSQREQALEATKSLLVCNSRILSYMGE LQRRKEAQVLGKTSRRPSDSGPPAERSPCRGRVCISDLRIPLMWKDTEYFKNKGDLHRWAVFLLLQLGEHIQDTE MILVDRTLTDISFQSNVLFAEAGPDFELRLELYGACVEEEGALTGGPKRLATKLSSSLGRSSGRRVRASLDSAGG SGSSPILLPTPVVGGPRYHLLAHTTLTLAAVQDGFRTHDLTLASHEENPAWLPLYGSVCCRLAAQPLCMTQPTAS GTLRVQQAGEMQNWAQVHGVLKGTNLFCYRQPEDADTGEEPLLTIAVNKETRVRAGELDQALGRPFTLSISNQYG DDEVTHTLQTESREALQSWMEALWQLFFDMSQWKQCCDEIMKIETPAPRKPPQALAKQGSLYHEMAIEPLDDIAA VTDILTQREGARLETPPPWLAMFTDQPALPNPCSPASVAPAPDWTHPLPWGRPRTFSLDAVPPDHSPRARSVAPL PPQRSPRTRGLCSKGQPRTWLQSPV

GACTACGTGGGTCTGGAGCTGACTGCCGTCCTGACACGTCCTAGAGCTGCAAGTCCTGCCAGAGAGCCACCATGA CCTCTCAGCCTCTCAGGCTAGCAGAAGAGTATGGCCCAAGTCCTGGGGAGTCTGAACTGGCTGTGAACCCCTTTG ATGGGCTTCCCTTCTCCCGCTACTATGAGCTGCTGAAGCAGCGCCAAGCCTTGCCCATCTGGGCTGCTCGCT TTACCTTCTTGGAGCAGTTGGAGGTAACCCCACTGGAGTGGTGCTGGTGTCTGGGGAGCCTGGTTCTGGCAAGA GCACCCAGATCCCTCAGTGGTGTGCAGAGTTTGCGCTGGCCAGAGGGTTCCAGAAAGGACAGGTTACTGTTACTC AGCCCTACCCTCTTGCAGCCCGGGAGCCTGGCTCTGCGGGTTGCTGATGAGATGGACCTGACCCTGGGTCATGAG GTTGGATCCAGCATCCCCCAGGAGGACTGCACGGGGCCCAACACCCTGCTCAGGTTCTGCTGGGACAGGCTGCTT CTGCAGGAGGTGGCCTCGACCCGAGGCACTGGAGCCTGGGGCGTGCTGGTACTAGATGAGGCTCAGGAGCGGTCG GTGGCATCAGATTCACTCCAGGGGCTACTGCAAGATGCCAGGCTGGAAAAACTTCCGGGGGACCTCAGAGTGGTT GTGGTTACTGACCCAGCCCTTGAACCTAAGCTCCGAGCTTTCTGGGGCAATCCTCCTATTGTGCATATACCCAGA GTGCTTGAATTGTGTCGGAAGGAGCTTCCAGGAGATGTGCTAGTGTTCCTGCCCAGTGAGGAGGAAATTTCCCTG TGCTGTGAATCCTTGTCCAGGGAGGTAGAGTCCTTGCTTCTCCAAGGGCTTCCACCACGAGTACTGCCCCTTCAC GCTGACTTCTCCTTCCCCTCCCTTCCATCCAACATGTCATCGACTCAGGACTGGAGCTCCGAAGTGTTTACAAT CCTAGGATCCGAGCAGAATTCCAAGTGTTGAGGCCAATCAGCAAGTGTCAGGCAGAGGCAAGACGATTGCGAGCA AGAGGGTTCCCACCAGGATCCTGCCTCTGCCTGTATCCTAAGTCCTTCTTAGAACTAGAAGCTCCACCATTGCCA CAACCCAGGGTGTGTGAGGAGAATCTGAGCTCCCTGGTGTTACTACTAAAAAGGAGACAGATTGCAGAGCCAGGG GAGTGTCACTTCCTGGACCAGCCTGCTCCAGAAGCACTGATGCAAGCCCTGGAAGATTTAGACTATCTGGCAGCC CTGGATGATGATGGGGACCTGTCAGATCTGGGTGTCATACTATCAGAATTCCCTCTGGCCCCTGAGCTGGCCAAA GCCCTGCTGGCCTCATGCGAGTTTGACTGTGTGGACGAGATGCTCACCCTGGCTGCCATGCTCACAGCTGCCCCT GGGTTTACCCGTCCTCCACTCAGTGCAGAAGAAGCTGCCCTGCGTCGGGCCCTGGAACACACGGATGGTGACCAC AGTTCTCTGATCCAGGTGTATGAAGCCTTTATACAAAGTGGAGCAGATGAGGCTTGGTGCCAGGCTCGAGGTCTG AATTGGGCAGCATTGTGCCAAGCCCATAAACTTCGGGGAGAACTCCTAGAACTCATGCAACGAATTGAACTTCCC TTGTCCCTACCAGCCTTTGGCTCTGAGCAGAATCGCAGAGACCTTCAGAAAGCACTGGTGTCAGAATACTTTCTC AAGGTGGCCAGAGACACAGACGGGACTGGAAATTACCTTCTCCTAACCCATAAGCATGTGGCCCAGCTCTCCTCA TACTGCTGCTACCGAAGCCGCAGAGCTCCTGCCAGACCCCCACCATGGGTGCTCTACCACAATTTCACCATATCC AAAGACAACTGCCTCTCCATTGTTTCTGAGATTCAACCACAGATGCTGGTGGAATTGGCCCCTCCATACTTCCTG AGCAAATCATCCTCAGCCCAGGAGTTCAGAGATCCCTGTGTCCTGCAG<u>TGA</u>CCTGCCTGCCTATGGAATGGAGCT TAGGGTCAAATGTAAACCCTGGAACCTGAGTCCCAAGAAATGGTAGACTGGGAATGGAAAGAATGGGTAAACCA AAAAAAAA

MDLTLGHEVGSSIPQEDCTGPNTLLRFCWDRLLLQEVASTRGTGAWGVLVLDEAQERSVASDSLQGLLQDARLEK LPGDLRVVVVTDPALEPKLRAFWGNPPIVHIPREPGERPSPIYWDTIPPDRVEAACQAVLELCRKELPGDVLVFL PSEEEISLCCESLSREVESLLLQGLPPRVLPLHPDCGRAVQAVYEDMDARKVVVTHWLADFSFSLPSIQHVIDSG LELRSVYNPRIRAEFQVLRPISKCQAEARRLRARGFPPGSCLCLYPKSFLELEAPPLPQPRVCEENLSSLVLLLK RRQIAEPGECHFLDQPAPEALMQALEDLDYLAALDDDGDLSDLGVILSEFPLAPELAKALLASCEFDCVDEMLTL AAMLTAAPGFTRPPLSAEEAALRRALEHTDGDHSSLIQVYEAFIQSGADEAWCQARGLNWAALCQAHKLRGELLE LMQRIELPLSLPAFGSEQNRRDLQKALVSEYFLKVARDTDGTGNYLLLTHKHVAQLSSYCCYRSRRAPARPPPWV LYHNFTISKDNCLSIVSEIQPQMLVELAPPYFLSNLPPSESRDLLNQLREGMADSTAGSKSSSAQEFRDPCVLQ

GAGCGGCTCTTTGACTCGCACCGGCTTCCGGGTGACTGCTTCCTACTGCTCGTGCTGCTCCTACGCGCCCAGTC GGGTTCTGCCTCCTCGTCCTGCGCCTCTTTCTCGGGATCCACGTCTTCCTGGTCAGCTGCCGCGCTGCCAGACAGC GTCCTTCGCAGATTCGTAGTGCGGACCATGTGTGCGGTGCTAGGGCTCGTGGCCCGGCAGGAGGACTCCGGACTC CGGGATCACAGTGTCAGGGTCCTCATTTCCAACCATGTGACACCTTTCGACCACAACATAGTCAATTTGCTTACC ACCTGTAGCACCCCTCTACTCAATAGTCCCCCCAGCTTTGTGTGCTGGTCTCGGGGGCTTCATGGAGATGAATGGG CGGGGGGAGTTGGTGGAGTCACTCAAGAGATTCTGTGCTTCCACGAGGCTTCCCCCCACTCCTCTGCTGCTATTC CCTGAGGAAGAGGCCACCAATGGCCGGGAGGGGCTCCTGCGCTTCAGTTCCTGGCCATTTTCTATCCAAGATGTG GTACAACCTCTTACCCTGCAAGTTCAGAGACCCCTGGTCTCTGTGACGGTGTCAGATGCCTCCTGGGTCTCAGAA CTGCTGTGGTCACTTTTCGTCCCTTTCACGGTGTATCAAGTAAGGTGGCTTCGTCCTGTTCATCGCCAACTAGGG GAAGCGAATGAGGAGTTTGCACTCCGTGTACAACAGCTGGTGGCCAAGGAATTGGGCCAGACAGGGACACGGCTC ACTCCAGCTGACAAAGCAGAGCACATGAAGCGACAAAGACACCCCAGATTGCGCCCCAGTCAGCCCAGTCTCT TTCCCTCCCTCCCTGGTCCTTCTCCTGATGTGCAACTGGCAACTCTGGCTCAGAGAGTCAAGGAAGTTTTGCCC CATGTGCCATTGGGTGTCATCCAGAGAGCCTGGCCAAGACTGGCTGTGTAGACTTGACTATCACTAATCTGCTT GAGGGGGCCGTAGCTTTCATGCCTGAAGACATCACCAAGGGAACTCAGTCCCTACCCACAGCCTCTGCCTCCAAG TTTCCCAGCTCTGGCCCGGTGACCCCTCAGCCAACAGCCCTAACATTTGCCAAGTCTTCCTGGGCCCGGCAGGAG AGCCTGCAGGAGCGCAAGCAAGCACTATATGAATACGCAAGAAGGAGATTCACAGAGAGACGAGCCCAGGAGGCT GACTGAGCTCAAAGGAACAGGATGGCACCCAGAGCCGCAGGACGGAGACTGGGGGCAGCCCTCACCCAACTCACA ACAGGCTGGATGGGTGGGTAAAAAGGGAAGGATGAGGCTCCCCCAATGTCACATTAAATTCATGGTTTTCAT TC

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CGTGGATCCCGAGAAAGAGGCGCAGGACGAGGAGGCAGAACCCGACTGGCGCGTAGAGCAGCAGCACGAGCAGTA GGAAGCAGTCACCCGGAAGCCTGGGGGCGAGAGGCGAAGTGGTCAGGCGCCGAAGGCCGAGAGCACGCGGGGATC GGTCTCTTCCCGCCGGGTCTCTTACCGGTGCGAGTCAAAGAGCCGCTCCGGCCCCGGCCCTGAGGGAAGCTCCAT AACTGCTGCTTCAGGAGCGCCCGCCGTCGCCGCCGCCGCCATTTTCGCGCCCGGCCGCAGGGGCTCTTGGGAAG GCGGAGTCTTTGGGCATCCGCCCGGGGTGAGGGGACCCGAAGTCCTGAGGCCGCCGGAAGGGCTAGCGGTCCCA GCATACCCCGCGGCCCCTTGGGCCGTCTCACAACTCGCGTCCGGCGAGACCACAATTCCCGGCATTCGTGGGGC AGGGAGGAGTCGGCCTCCCGGAATCCTGGTCCCGGCGTGCACTTCTGAAGGACTTCAGGTACCGGCGTGCCCCGC GTCCTACTGTCCGCCTGCGTCCTGGGTGCCGCCTCTGAGTAGGGCGGCGAGGAGGCAGCCAAGGCGGAGC $\texttt{TG} \underline{\textbf{ATG}} \texttt{GCTGCGCCGAGGCCGGGGCGGGGTGCAGGCTGGAGCCTTCGGGCATGGCGGGCTTTGGGGGGGCATTCGCT}$ GGGGGAGGACCCCGTTTGACCCCTGACCTCCGGGCCCTGCTGACGTCAGGAACTTCTGACCCCCGGGCCCGAG TGACTTATGGGACCCCCAGTCTCTGGGCCCGGTTGTCTGTTGGGGTCACTGAACCCCGAGCATGCCTGACGTCTG GGACCCCGGGTCCCCGGGCACAACTGACTGCGGTGACCCCAGATACCAGGACCCGGGAGGCCTCAGAGAACTCTG GTCGGGGTCCTCCGCCGCCGCCGCCGCCGCCGCCCGCTCCCCGGAGTCAGTACAACTTCA TCGCAGATGTGGTGGAGAAGACAGCACCTGCCGTGGTCTATATCGAGATCCTGGACCGGCACCCTTTCTTGGGCC GCGAGGTCCCTATCTCGAACGGCTCAGGATTCGTGGTGGCTGCCGATGGGCTCATTGTCACCAACGCCCATGTGG TGGCTGATCGGCGCAGAGTCCGTGTGAGACTGCTAAGCGGCGACACGTATGAGGCCGTGGTCACAGCTGTGGATC CCGTGGCAGACATCGCAACGCTGAGGATTCAGACTAAGGAGCCTCTCCCCACGCTGCCTCTGGGACGCTCAGCTG ATGTCCGGCAAGGGGAGTTTGTTGTTGCCATGGGAAGTCCCTTTGCACTGCAGAACACGATCACATCCGGCATTG TTAGCTCTGCTCAGCGTCCAGCCAGAGACCTGGGACTCCCCCAAACCAATGTGGAATACATTCAAACTGATGCAG TCACAGCTGGAATCTCCTTTGCCATCCCTTCTGATCGTCTTCGAGAGTTTCTGCATCGTGGGGAAAAGAAGAATT CCTCCTCCGGAATCAGTGGGTCCCAGCGCGCCTACATTGGGGTGATGATGCTGACCCTGAGTCCCAGCATCCTTG CTGAACTACAGCTTCGAGAACCAAGCTTTCCCGATGTTCAGCATGGTGTACTCATCCATAAAGTCATCCTGGGCT CCCCTGCACACCGGGCTGGTCTGCGGCCTGGTGATGTGATTTTGGCCATTGGGGAGCAGATGGTACAAAATGCTG AAGATGTTTATGAAGCTGTTCGAACCCAATCCCAGTTGGCAGTGCAGATCCGGCGGGGACGAGAAACACTGACCT CTTTCTGGCTGAGGTTCTGAGGGCACCGAGACAGAGGGTTAAATGAACCAGTGGGGGCAGGTCCCTCCAACCACC AGCACTGACTCCTGGGCTCTGAAGAATCACAGAAACACTTTTTATATAAAATAAAATTATACCTAGCAACATATT ATAGTAAAAATGAGGTGGGAGGGCTGGATCTTTTCCCCCCACCAAAAGGCTAGAGGTAAAGCTGTATCCCCCTAA

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MAAPRAGRGAGWSLRAWRALGGIRWGRRPRLTPDLRALLTSGTSDPRARVTYGTPSLWARLSVGVTEPRACLTSG
TPGPRAQLTAVTPDTRTREASENSGTRSRAWLAVALGAGGAVLLLLWGGGRGPPAVLAAVPSPPPASPRSQYNFI
ADVVEKTAPAVVYIEILDRHPFLGREVPISNGSGFVVAADGLIVTNAHVVADRRVRVRLLSGDTYEAVVTAVDP
VADIATLRIQTKEPLPTLPLGRSADVRQGEFVVAMGSPFALQNTITSGIVSSAQRPARDLGLPQTNVEYIQTDAA
IDFGNSGGPLVNLDGEVIGVNTMKVTAGISFAIPSDRLREFLHRGEKKNSSSGISGSQRRYIGVMMLTLSPSILA
ELQLREPSFPDVQHGVLIHKVILGSPAHRAGLRPGDVILAIGEQMVQNAEDVYEAVRTQSQLAVQIRRGRETLTL
YVTPEVTE

MADKPDMGEIASFDKAKLKKTETQEKNTLPTKETIEQEKRSEIS

CACCAAATGGCGGATGACGCCGGTGCAGCGGGGGGGCCCAGAGCCCTGGTGGCCATGGGATAGGGAACCGCGGTG
GCTTCCACGGAGGTTTCGGCAGTGGCATCCGGGGCCGGGGCCGGGGTCGCGGAGTGGACGGGGCCGCGG
AGCTCGCGGAGGCAAGGCCGAGGATAAGGAGTGGATGCCTGTCACCAAGCTGGGCCGCTTGGTCAAGGACATGAA
GATCAAGTCCCTGGAGGAGATCTATCTCTTCTCCCTGCCCATTAAGGAATCTGAGATCATTGATTTCTTCCTGGG
GGACTCTCTCAAGGATGAGGTTTTGAAGATTATGCCGGTGCAGAAGCAGACCCGTGCCGGCCAGCGCACCAGGTT
CAAGGTGACAGGCCGCTGCGGCTCTGTGCTGGTGCGCCCTCATCCCTGCACCCAGGGGCACTGGCATCGTCTCCGC
ACCTGTGCCCAAGAAGCTGCTCATGATGGCTGGTATCGATGACTACACCTCAGCCCGGGGCTGCACTGCCAC
CCTGGGCAACTTCGCCAAGGCCACCTTTGATGCCATCTCTAAGACCTACAGCTACCTGACCCCCGACCTCTGGAA
GGAGACTGTATTTACCAAGTCTCCCTATCAGGAATTCACTGACCACCCTGCTCAAGACCCACACCAGAGTCTCGGT
GCAGCGGACCCCAGGCTTCAGATGTGGCTACAACATAGGGTTTTTATACAAGAAAAATAAAGTGAATTAAGCCTG

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CGCAGGCTGGAAGGAAGACGAACCTACGAAGCAGAGATCTGAAGACAGCATGTACACAGCCATTCCCCAGAGTGG CTCTCCATTCCCAGGCTCAGTGCAGGATCCAGGCCTGCATGTGTGGCGGGTGGAGAAGCTGAAGCCGGTGCCTGT CAACACGCTGCTGGGAGAGCGGCCTGTGCAGCACCGCGAGGTGCAGGGCAATGAGTCTGACCTCTTCATGAGCTA CTTCCCACGGGGCCTCAAGTACCAGGAAGGTGGTGTGGAGTCAGCATTTCACAAGACCTCCACAGGAGCCCCAGC TGCCATCAAGAAACTCTACCAGGTGAAGGGGAAGAAGAACATCCGTGCCACCGAGCGGGCACTGAACTGGGACAG CTTCAACACTGGGGACTGCTTCATCCTGGACCTGGGCCAGAACATCTTCGCCTGGTGTGGTGGAAAGTCCAACAT CCTGGAACGCAACAAGGCGAGGGACCTGGCCCTGGCCATCCGGGACAGTGAGCCGACAGGGCAAGGCCCAGGTGGA GATTGTCACTGATGGGGAGGAGCCTGCTGAGATGATCCAGGTCCTGGGCCCCAAGCCTGCTCTGAAGGAGGGCAA CCCTGAGGAAGACCTCACAGCTGACAAGGCAAATGCCCAGGCCGCAGCTCTGTATAAGGTCTCTGATGCCACTGG ACAGATGAACCTGACCAAGGTGGCTGACTCCAGCCCCTTTGCCCTTGAACTGCTGATATCTGATGACTGCTTTGT CCTGCAGGTGGCCGAGGGCTTCATCTCGCGCATGCAGTACGCCCCGAACACTCAGGTGGAGATTCTGCCTCAGGG $\tt CTGCCCCCACCACCTGCCTGCTTGCTTCTCTGGCTGCCTGGTCAGTGCAGAGGTGCCCCCTGCAGATGTTCAAT$ AAAGGAGACAAGTGCTTTCCC

MYTAIPQSGSPFPGSVQDPGLHVWRVEKLKPVPVAQENQGVFFSGDSYLVLHNGPEEVSHLHLWIGQQSSRDEQG ACAVLAVHLNTLLGERPVQHREVQGNESDLFMSYFPRGLKYQEGGVESAFHKTSTGAPAAIKKLYQVKGKKNIRA TERALNWDSFNTGDCFILDLGQNIFAWCGGKSNILERNKARDLALAIRDSERQGKAQVEIVTDGEEPAEMIQVLG PKPALKEGNPEEDLTADKANAQAAALYKVSDATGQMNLTKVADSSPFALELLISDDCFVLDNGLCGKIYIWKGRK ANEKERQAALQVAEGFISRMQYAPNTQVEILPQGRESPIFKQFFKDWK

GGCACGAGGCGCCCGCCTGCTACGAGTAGAACGCTGTCCGCAGCTTGCGCATTTCGCAGCCGCTGCCGCCTCGCC ${\tt GCTGCTCCTTCGTAAGGCCACTTCCGCACACCGACACCAAC} {\color{red} \underline{\textbf{ATG}}} {\color{blue} \textbf{ACGGACAGCTCAACGGCTTCCACGAGGCGT}}$ TCAGTGATGCTGTCCTTGATGCCCACCTTCAGCAGGATCCTGATGCCAAAGTAGCTTGTGAAACTGTTGCTAAAA CTGGAATGATCCTTCTTGCTGGGGAAATTACATCCAGAGCTGCTGTTGACTACCAGAAAGTGGTTCGTGAAGCTG TTAAACACATTGGATATGATGATTCTTCCAAAGGTTTTGACTACAAGACTTGTAACGTGCTGGTAGCCTTGGAGC AACAGTCACCAGATATTGCTCAAGGTGTTCATCTTGACAGAAATGAAGAAGACATTGGTGCTGGAGACCAGGGCT TAATGTTTGGCTATGCCACTGATGAAACTGAGGAGTGTATGCCTTTAACCATTGTCTTGGCACACAAGCTAAATG CCAAACTGGCAGAACTACGCCGTAATGGCACTTTGCCTTGGTTACGCCCTGATTCTAAAACTCAAGTTACTGTGC AGTATATGCAGGATCGAGGTGCTGCCTTCCCATCAGAGTCCACACAATTGTTATATCTGTTCAGCATGATGAAG AGGTTTGTCTTGATGAAATGAGGGATGCCCTAAAGGAGAAAGTCATCAAAGCAGTTGTGCCTGCGAAATACCTTG ATGAGGATACAATCTACCACCTACAGCCAAGTGGCAGATTTGTTATTGGTGGGCCTCAGGGTGATGCTGGTTTGA CTGGACGCAAAATCATTGTGGACACTTATGGCGGTTGGGGTGCTCATGGAGGAGGTGCCTTTTCAGGAAAGGATT ATACCAAGGTCGACCGTTCAGCTGCTTATGCTGCTCGTTGGGTGGCAAAATCCCTTGTTAAAGGAGGTCTGTGCC CCTCTCAGAAGAGTGAGAGAGGCTATTAGAGATTGTGAAGAAGAATTTCGATCTCCGCCCTGGGGTCATTGTCA GGGATCTGGATCTGAAGAAGCCAATTTATCAGAGGACTGCAGCCTATGGCCACTTTGGTAGGGACAGCTTCCCAT ${\tt GGGAAGTGCCCAAAAAGCTTAAATAT} \underline{{\tt TGA}} {\tt AAGTGTTAGCCTTTTTTCCCCAGACTTGTTGGCGTAGGCTACAGAG}$ AAGCCTTCAAGCTCTGAGGGAAAGGGCCCTCCTTCCTAAATTTTCCTGTCCTCTTTCAGCTCCTGACCAGTTGCA GTCACTCTAGTCAATGACATGAATTTTAGCTTTTGTGGGGGACTGTAAGTTGGGCTTGCTATTCTGTCCCTAGGT GTTTTGTTCACCATTATAATGAATTTAGTGAGCATAGGTGATCCATGTAACTGCCTAGAAACAACACTGTAGTAA ATAATGCTTTGAAATTGAACCTTTGTGCCCTATCACCCAACGCTCCAAAGTCATAATTGCATTGACTTTCCCCAC CACAGCCCTGTCAGCATGAATTTGTAATGTCTTGAGCTCTATTATGAATGTGAAGCCTTCCCCTTATCCTCCCTG AAGTTCCCAGTTGGAGCTCCAGCCTGACATCAAAAAAGGCAGTTACCATTAAACCATCTCCCTGGTGCTTATGCT AGGTTTTAATTTAGTAAACCAATCCTATGCATGGTTTCAGCACTAGCCAAACCTCACCAACTCCTAGTTCTAGAA AAACAGGCACTTGGCAGCCTTGTGATGTCATACAGAGAAGTCACAGGGCAGTACCTGAGGGTCTGTAGGTTGCAC ACTTTGGTACCAGATAACTTTTTTTTTTTTTATAAGAAAGCCTGAGTACTCCACACTGCACAATAACTCCTCCC AGGGTTTTAACTTTGTTTTATTTTCAAAACCAGGTCCAATGAGCTTTCTGAACAGCTGGTGTAGCTACAGAGAAA TATTTATTGTATTCTGGGGTATGGCGTAAGTACAGAGAAGCCATCACCTCAGATGGCAGCTTTTAAAAGATTTTT TTTTTTTCTCTCAACACCATGATTCCTTTAACAACATGTTTCCAGCATTCCCAGGTAGGCCAAGGTGTCCTACAG ATGGAGAAAGCTGACTTGGCTGGTGTGCTACAGAGAAGCCAGCTTGTTTACATGCTTATTCCATGACTGCTTGCC CTAAGCAGAAAGTGCCTTTCAGGATCTATTTTTGGAGGTTTATTACGTATGTCTGGTTCTCAATTCCAACAGTTT

MNGQLNGFHEAFIEEGTFLFTSESVGEGHPDKICDQISDAVLDAHLQQDPDAKVACETVAKTGMILLAGEITSRA
AVDYQKVVREAVKHIGYDDSSKGFDYKTCNVLVALEQQSPDIAQGVHLDRNEEDIGAGDQGLMFGYATDETEECM
PLTIVLAHKLNAKLAELRRNGTLPWLRPDSKTQVTVQYMQDRGAVLPIRVHTIVISVQHDEEVCLDEMRDALKEK
VIKAVVPAKYLDEDTIYHLQPSGRFVIGGPQGDAGLTGRKIIVDTYGGWGAHGGGAFSGKDYTKVDRSAAYAARW
VAKSLVKGGLCRRVLVQVSYAIGVSHPLSISIFHYGTSQKSERELLEIVKKNFDLRPGVIVRDLDLKKPIYQRTA
AYGHFGRDSFPWEVPKKLKY

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GGCCGTGGAAGACCGTGTGCGTGAAGGAGCTGAACGGCCTTAAGAAGCTCAAGCGGAAAGGCAAGGAGCCGGCGC CCCCAAGAGGGGGCACGGACACAGCCGGGGAGCGCGGGGGCTCTCGGGCGCCCGAGGTCTCCGACGCGCGGAAAC GCTGCTTCGCCCTAGGCGCAGTGGGGCCAGGACTCCCCACGCCGCCGCCGCCGCCGCCTCCTGCGCCCCAGAGCC AGGCACCTGGGGGCCCAGAGGCACAGCCTTTCCGGGAGCCGGGTCCGCGTCCTCGCATCTTGCTGTGCGCACCGC $\tt CGCGCCCGGGGAAAGTTCCTACTCGTCAATTTCACACGTAATTTACAATAACCACCAGGATTCCTCCGCGTCGC$ CTAGGAAACGACCGGGCGAAGCGACTGCCGCCTCCTCCGAGATCAAAGCCCTGCAGCAGACCCGGAGGCTCCTGG $\tt CGAACGCCAGGGAGCGGACGCGGGGGCACACCATCAGCGCAGCCTTCGAGGCGCTCAGGAAGCAGGTGCCGTGCT$ TGGCTGACCTTGACTACAGTGCCGACCACAGCAACCTCAGCTTCTCCGAGTGTGCAGCGCTGCACCCCGCACCC AAGGCCCACTGTCCAGCTGCAGAAATTCGTTGCCAAAGATTGGACAGAACACCGAAGGAAATGGGGTGGTGAAA CCCCACAGCGAAAAGCCACACCGTTGCTCTGTGACTTTTGCTCCTCGTGTGCCTGAGCCCCATCTCAAGCCAAA GGCCACTGGCCCCAGTTCTCAGTGTCCCTTGGGTCCAGGCTCCTTGGGCCCTAAGCATCACCAGAAGGGAGTAAG CAGGGAGAGCAATATTACTCCCTCCCCTACACCAGGGACTTGCCCCAGGGCAGCTACCTATGGGTCTTTGCT GGCTGGAGCCGTCCTACTGGGCAAGATGGCGCCCCACTTGGAGGGCGGTGGTCTGTTACAGGGTGTGCAGGGGCA GAGAAGGAAGGGACCAGGGGCCAGTATGTGGAGGATGGGGCCTGCGTGTTCAAAGCCAAGGCCCCCCC TTCCTTGTGCTCAAATGGCCAAAGCTGTTCACGTCTGTGCTCAACCATCTGCTTCAAATTGAAGTAAAAGCCCCA AAAAG

MKHIPVLEDGPWKTVCVKELNGLKKLKRKGKEPARRANGYKTFRLDLEAPEPRAVATNGLRDRTHRLQPVPVPVP VPVPVAPAVPPRGGTDTAGERGGSRAPEVSDARKRCFALGAVGPGLPTPPPPPPPPPAPQSQAPGGPEAQPFREPGP RPRILLCAPPARPAPSAPPAPPAPPESTVRPAPPTRPGESSYSSISHVIYNNHQDSSASPRKRPGEATAASSEIK ALQQTRRLLANARERTRVHTISAAFEALRKQVPCYSYGQKLSKLAILRIACNYILSLARLADLDYSADHSNLSFS ECVQRCTRTLQAEGRAKKRKE

TCGGCGGGCGGGTTTGTGTGAACAGGCACGCAGCTGCAGATTTTATTCTGGTAGTGCAACCCTCTCAAAGGTTGA AGGAACTGATGTAACAGGGATTGAAGAAGTAGTAATTCCAAAAAAGAAAACTTGGGATAAAGTAGCCGTTCTTCA GGCACTTGCATCCACAGTAAACAGGGATACCACAGCTGTGCCTTATGTGTTTCAAGATGATCCTTACCTTATGCC TTCATACCCCAAATATTTTCAGAAGGACATAGCTGAACCTCATATACCGTGTTTAATGCCTGAGTACTTTGAACC TCAGATCAAAGACATAAGTGAAGCCGCCCTGAAGGAACGAATTGAGCTCAGAAAAGTCAAAGCCTCTGTGGACAT GTTTGATCAGCTTTTGCAAGCAGGAACCACTGTGTCTCTTGAAACAACAAATAGTCTCTTGGATTTATTGTGTTA CTATGGTGACCAGGAGCCCTCAACTGATTACCATTTTCAACAAACTGGACAGTCAGAAGCATTGGAAGAGGAAAA TGATGAGACATCTAGGAGGAAAGCTGGTCATCAGTTTGGAGTTACATGGCGAGCAAAAAACAACGCTGAGAGAAT CTTTTCTCTAATGCCAGAGAAAAATGAACATTCCTATTGCACAATGATCCGAGGAATGGTGAAGCACCGAGCTTA TGAGCAGGCATTAAACTTGTACACTGAGTTACTAAACAACAGACTCCATGCTGATGTATACACATTTAATGCATT GATTGAAGCAACAGTATGTGCGATAAATGAGAAATTTGAGGAAAAATGGAGTAAAATACTGGAGCTGCTAAGACA $C\underline{\mathbf{ATG}}$ GTTGCACAGAAGGTGAAACCAAATCTTCAGACTTTTAATACCATTCTGAAATGTCTCCGAAGATTTCATGT GTTTGCAAGATCGCCAGCCTTACAGGTTTTACGTGAAATGAAAGCCATTGGAATAGAACCCTCGCTTGCAACATA TCACCATATTATTCGCCTGTTTGATCAACCTGGAGACCCTTTAAAGAGATCATCCTTCATCATTTATGATATAAT ATGCTCATCTCTCAGAGATCTAGAACTTGCCTACCAAGTACATGGCCTTTTAAAAACCGGAGACAACTGGAAATT CATTGGACCTGATCAACATCGTAATTTCTATTATTCCAAGTTCTTCGATTTGATTTGTCTAATGGAACAAATTGA TGTTACCTTGAAGTGGTATGAGGACCTGATACCTTCAGCCTACTTTCCCCACTCCCAAACAATGATACATCTTCT CCAAGCATTGGATGTGGCCAATCGGCTAGAAGTGATTCCTAAAATTTGGAAAGATAGTAAAGAATATGGTCATAC AGCCACCTCTCTCAACTGTATAGCTATCCTCTTTTTAAGGGCTGGGAGAACTCAGGAAGCCTGGAAAATGTTGGG GCTTTTCAGGAAGCATAATAAGATTCCTAGAAGTGAGTTGCTGAATGAGCTTATGGACAGTGCAAAAGTGTCTAA CAGCCCTTCCCAGGCCATTGAAGTAGTAGAGCTGGCAAGTGCCTTCAGCTTACCTATTTGTGAGGGCCTCACCCA GAGAGTAATGAGTGATTTTGCAATCAACCAGGAACAAAAGGAAGCCCTAAGTAATCTAACTGCATTGACCAGTGA ${\tt CAGTGATACTGACAGCAGCAGTGACAGCGACAGTGACAGCCAAA} \underline{{\tt TGA}}{\tt AGTGGAGATTCAGGAGCAG}$ $\tt CAATGGTCTCACCATAGCTGCTGGAATCACCCTGAGAACTGAGATATACCAATATTTAACATTGTTACAAAGAA$ GCTAATATGCTACTTAACCATCTATTAATGCACCATTAAAGGCTTAGCATTTAAGTAGCAACATTGCGGTTTTCA GACACATGGTGAGGTCCATGGCTCTTGTCATCAGGATAAGCCTGCACACCTAGAGTGTCGGTGAGCTGACCTCAC GATGCTGTCCTCGTGCGATTGCCCTCTCCTGCTGCACTTCTGCCTTTGTTGGCCTGATGTGCTGTGATG $\tt CTGGTCCTTCATCTTAGGTGTTCATGCAGTTCTAACACAGTTGGGGTTGGGTCAATAGTTTCCCCAATTTCAGGAT$ ATTTCGATGTCAGAAATAACGCATCTTAGGAATGACTAAACAAGATAATGGCAGTTTAGGCTGCACAACTGGTAA ${\tt AATGACTGTAGATAAATGTTGTAATTAGTGTACACGTTTGTATTTTTGTTAATATAGCCGCTGCCATAGTTTTCT}$

MVAQKVKPNLQTFNTILKCLRRFHVFARSPALQVLREMKAIGIEPSLATYHHIIRLFDQPGDPLKRSSFIIYDIM NELMGKRFSPKDPDDDKFFQSAMSICSSLRDLELAYQVHGLLKTGDNWKFIGPDQHRNFYYSKFFDLICLMEQID VTLKWYEDLIPSAYFPHSQTMIHLLQALDVANRLEVIPKIWKDSKEYGHTFRSDLREEILMLMARDKHPPELQVA FADCAADIKSAYESQPIRQTAQDWPATSLNCIAILFLRAGRTQEAWKMLGLFRKHNKIPRSELLNELMDSAKVSN SPSQAIEVVELASAFSLPICEGLTQRVMSDFAINQEQKEALSNLTALTSDSDTDSSSDSDSDTSEGK

ACGCGGGCACGCACACGGGAAGCACGCCTCCACTTAACTCGCGCCGCCGCGGCAGCTCGAGTCCACCAGCAGCG $\texttt{CCGTCCGCTTGACCGAG} \underline{\textbf{ATG}} \texttt{CTGCGGGCCTGTCAGTTATCGGGTGTGACCGCCGCCGCCGAGAGTTGTCTCTGTG}$ ATAATGTTCCATTGCCAAAGAAATCGATTCAGTCGGGTCCACTAAAAATCTCTAGTGTATCAGAAGTAATGAAAG AATCTAAACAGTCTGCCTCACAACTCCAAAAACAAAAGGGAGATACTCCAGCTTCAGCAACAGCACCTACAGAAG CGGCTCAAATTATTTCTGCAGCAGGTGATACCCTGTCGGTCCCAGCCCCTGCAGTTCAGCCTGAGGAATCTTTAA AAACTGATCACCCTGAAATTGGTGAAGGAAAACCCACACCTGCACTTTCAGAAGAAGCATCCTCATCTTCTATAA GGGAGCGACCACCTGAAGAAGTTGCAGCTCGCCTTGCACAACAGGAAAAACAAGAACAAGTTAAAATTGAGTCTC TAGCCAAGAGCTTAGAAGATGCTCTGAGGCAAACTGCAAGTGTCACTCTGCAGGCTATTGCAGCTCAGAATGCTG $\tt CGGTCCAGGCTGTCAATGCACACCTCCAACATATTGAAAGCCGCCATGGACAATTCTGAGATTGCAGGCGAGAAGA$ TTCTCAAAGCCAAAGAAGAGTTAGAGAAGATGAAAAGTGTGATTGAAAATGCAAAGAAAAAAAGAGGTTGCTGGGG TCCAAGCAGCTCAGTCTGAGGCTAAGGTTGTATCTCAGTATCATGAGCTGGTGGTCCAAGCTCGGGATGACTTTA AGCTCTCTACTGATGATCTGAACTCCCTCATTGCTCATGCACATCGTCGTATTGATCAGCTGAACAGAGAGCTGG CAGAACAGAAGGCCACCGAAAAGCAGCACATCACGTTAGCCTTGGAGAAACAAAAGCTGGAAGAAAAGCGGGCAT TTGACTCTGCAGTAGCAAAAGCATTAGAACATCACAGAAGTGAAATACAGGCTGAACAGGACAGAAAGATAGAAG AAGTCAGAGATGCCATGGAAAATGAAATGAGAACCCAGCTTCGCCGACAGGCAGCTGCCCACACTGATCACTTGC GAGATGTCCTTAGGGTACAAGAACAGGAATTGAAGTCTGAATTTGAGCAGAACCTGTCTGAGAAACTCTCTGAAC AAGAATTACAATTTCGTCGTCTCAGTCAAGAGCAAGTTGACAACTTTACTCTGGATATAAATACTGCCTATGCCA GACTCAGAGGAATCGAACAGGCTGTTCAGAGCCATGCAGTTGCTGAAGAGGCAAGAGCCCACCAACTCT GGCTTTCAGTGGAGGCATTAAAGTACAGCATGAAGACCTCATCTGCAGAAACACCTACTATCCCGCTGGGTAGTG CAGTTGAGGCCATCAAAGCCAACTGTTCTGATAATGAATTCACCCAAGCTTTAACCGCAGCTATCCCTCCAGAGT CCCTGACCCGTGGGGTGTACAGTGAAGAGACCCTTAGAGCCCGTTTCTATGCTGTTCAAAAAACTGGCCCGAAGGG CACCTCAGCAACTGAAGCCGCCCCAGAGCTCTGCCCTGAGGATATAAACACATTTAAATTACTGTCATATGCTT CCTATTGCATTGAGCATGGTGATCTGGAGCTAGCAGCAAAGTTTGTCAATCAGCTGAAGGGGGGAATCCAGACGAG TGGCACAGGACTGGCTGAAGGAAGCCCGAATGACCCTAGAAACGAAACAGATAGTGGAAATCCTGACAGCATATG ${\tt CCAGCGCCGTAGGAATAGGAACCACTCAGGTGCAGCCAGAG} {\tt TGA} {\tt GGTTTAGGAAGATTTTCATAAAGTCATATTT}$ CATGTCAAAGGAAATCAGCAGTGATAGATGAAGGGTTCGCAGCGAGAGTCCCGGACTTGTCTAGAAATGAGCAGG TTTACAAGTACTGTTCTAAATGTTAACACCTGTTGCATTTATATTCTTTCCATTTGCTATCATGTCAGTGAACGC TCAAAATAATGTTTGTGATCTCTACTACTGTTGATTTTGCCCTCGGAGCAAACTGAATAAAGCAACAAGATG

MLRACQLSGVTAAAQSCLCGKFVLRPLRPCRRYSTSGSSGLTTGKIAGAGLLFVGGGIGGTILYAKWDSHFRESV EKTIPYSDKLFEMVLGPAAYNVPLPKKSIQSGPLKISSVSEVMKESKQSASQLQKQKGDTPASATAPTEAAQIIS AAGDTLSVPAPAVQPEESLKTDHPEIGEGKPTPALSEEASSSSIRERPPEEVAARLAQQEKQEQVKIESLAKSLE DALRQTASVTLQAIAAQNAAVQAVNAHSNILKAAMDNSEIAGEKKSAQWRTVEGALKERRKAVDEAADALLKAKE ELEKMKSVIENAKKKEVAGAKPHITAAEGKLHNMIVDLDNVVKKVQAAQSEAKVVSQYHELVVQARDDFKRELDS ITPEVLPGWKGMSVSDLADKLSTDDLNSLIAHAHRRIDQLNRELAEQKATEKQHITLALEKQKLEEKRAFDSAVA KALEHHRSEIQAEQDRKIEEVRDAMENEMRTQLRRQAAAHTDHLRDVLRVQEQELKSEFEQNLSEKLSEQELQFR RLSQEQVDNFTLDINTAYARLRGIEQAVQSHAVAEEEARKAHQLWLSVEALKYSMKTSSAETPTIPLGSAVEAIK ANCSDNEFTQALTAAIPPESLTRGVYSEETLRARFYAVQKLARRVAMIDETRNSLYQYFLSYLQSLLLFPPQQLK PPPELCPEDINTFKLLSYASYCIEHGDLELAAKFVNQLKGESRRVAQDWLKEARMTLETKQIVEILTAYASAVGI GTTQVQPE

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TAGTGCCGCCGCTCCCTACTCTGGGGGTTGGGACTACCTCCTTTTCCGCGGGCCCCCGCCCAGGCGGCTGCCCGTG ${\tt ACCTGCCTGGGCGCGGGGAACTGAAAGCCGGAAGGGGCCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTGGAAAGCCGGAAGGGGCCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTGGAAAGCCGGAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTGGAAAGCCGGAAGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTGGAAAGCCGGAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTGGAAAGCCGGAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTGGAAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTGGAAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTGGAAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTTGGAAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTTGGAAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTTGGAAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTTGGAAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTTGGAAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTTGGAAAGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTTGGAAAGGGGGCAAGACGGGTTCAGTTCGTCATGGGGGCTGTTTTGGAAAGGGGCAAGACGGGGTTCAGTTCGTCATGGGGGCTGTTTTGGAAAGGCCGGAAGACGGGGTTCAGTTC$ ACCCAGGAGAAGCCGCCCAAAGAACTGGTCAATGAGTGGTCATTGAAGATAAGAAAGGAAATGAGAGTTGTTGAC AGGCAAATAAGGGATATCCAAAGAGAAGAAGAAAAAGTGAAACGATCTGTGAAAGATGCTGCCAAGAAGGGCCAG GCACACATGAACTCAGTGCTCATGGGGATGAAGAACCAGCTCGCGGTCTTGCGAGTGGCTGGTTCCCTGCAGAAG AGCACAGAAGTGATGAAGGCCATGCAAAGTCTTGTGAAGATTCCAGAGATTCAGGCCACCATGAGGGAGTTGTCC AAAGAAATGATGAAGGCTGGGATCATAGAGGAGATGTTAGAGGACACTTTTGAAAGCATGGACGATCAGGAAGAA ATGGAGGAAGAAGCAGAAATTGACAGAATTCTCTTTGAAATTACAGCAGGGGCCTTGGGCAAAGCACCC AGTAAAGTGACTGATGCCCTTCCAGAGCCAGAACCTCCAGGAGCGATGGCTGCCTCAGAGGATGAGGAGGAGGAG GAAGAGGCTCTGGAGGCCATGCAGTCCCGGCTGGCCACACTCCGCAGCTAGGGGCTGCCTACCCCGCTGGGTGTG CACACACTCCTCTAAGAGCTGCCATTTTATGTGTCTCTTGCACTACACCTCTGTTGTGAGGACTACCATTTTGG AGAAGGTTCTGTTTGTCTCTTTCATTCTCTGCCCAGGTTTTGGGATCGCAAAGGGATTGTTCTTATAAAAGTGG TCATGAAGCACTTCTGAAAATATAGGTGATTGCCTGAATGTCGAAGACTCTACTTTTGTCTATAAAACACTATAT AAATGAATTTTAATAAATTTTTGCTTTAGCACTTGGCCCCATTGTAGATTGCCCTGTGCAGTAAACTTTCAAGGT GTCGGCTGCCCCAGATTGCTTCATTTGCTGGGTGTGGAAAGAGTTGCTATGGCCAGGCATATGGGATTTGGAAGC TCAGCAGAAGTGACTTCTGCTCTGTGGTTGCTCCCCGGCTTTCACAGACATGGTATGGCAGCCATTCTTTTA TCTATTTAACCAAGAGGATGCTGGGGAATTGTGCTGCTTGTCCTGTTGGCTGGTGGCTGCATTATGTCCTGGGGT ACTAGGTCTCTTCACCTCTCATTGCCTGTCCCTGCTTCGAGCTGGTTGTCTTGTGCGTGGGACATGGGCCTTCC TATCTGTGTTTTCTCAAAGTCAGGAGCTGACCAGGAGCACACTAAGGTGTGGTCATGCATCATAACCAACATTCA CTCATCTGGGACATTCTTAAGATACATTTATAAATCATTTCAGCAGTAGTACTTTGTATGTGTTGAGAGTTTACA GAGCTCTTTGACATACGCGATCTTAGTCTTTACAAATAAGGAAAACAGCTCAGTTTGGGAAGTATCAGAGATGGG CTCACAGATTGTTTTTTGTATATTGTAGCAAAATCCTGAAACAATGGGGTCCTTCCAGTCTCATCATACAAAATG GCAATCTTGGCTGGGTGCGGTGGTTCATGCCTATAATCCCAGTGCTTTACAAGGCTGAGGCAGGAGGCTCTCTTG AAAATTTCATTTTTGAGTCCAGAGGACCCTCCTATTACTCTTGATTTCATCTTCAGAGTGTAGTTAAAAAATTAT TTTAAATAATTATTTTTTTAAATCAGTTGTAGGTTCACAGCAAAAGTGGACAAAAAGAAATTTCTCATATATCCC AACCTCCATTGACACATCATTATCACCCAAAGTCCATAGTTTACATGAAGATTCACTCTGGTGTTGTACATTGTA TGGGCTTAGACAAATGTATGATGATATCTACAATTATAGAATCATACAGAATAGTTTCACTGCCCTAAAACTTCT GTACATGTGCAGGTAAACTCGTGACAAGGGGGTTTGTTATACAGATTATTTAGTGACCCAGGTACTAAGCCTAGT ACCCAATAGTTACTTTCTGGTCCTGTCCCTTTTCCCACCCTCCACCCTCAGGTAGGCCCCAGTATGTTATTCCT TTGTGTCCATGTTATTTCACTCCCACTTGTGAGAACATGGAATATTTGGTTTCCTGTTCCTATGTTAGTTTGTTA GCCATAGTTCTTCCTTTTCTAGAATGTCATATTGGAATCATATAGTATGTAGCCTTTTCAGACTGGCTTCTTTCA TACTCCATTGTCTAGATGAATAGTTTATCCATTCACCTATTGAAAGACTTCTTGGTGGTTTCCAAGTTTTGGCAA CCAAGAGCTTCAGTGCTGGATCATA

GCGGCCGTTACGGCGCTCAGGCGTCTCGACGCGCGCGATTTAAAACCAGCTCAGGAGACGCCAAGGAAAG<u>ATG</u>GG ACCTCCCGGCCCAGCACTGCCAGCCACAATGAATAACTCTTCTTCAGAGACGCGAGGACACCCCCACAGTGCCTC $\tt CTCTCCTTCAGAGCGTGTGTTCCCGATGCCCCTGCCCAGGAAGGCGCCTCTCAATATTCCTGGCACCCCAGTCCT$ ${\tt CGAAGACTTTCCTCAGAATGACGATGAGAAGGAGCGGCTGCAGCGGAGGCGCTCGAGGGTCTTTGATCTGCAGTT}$ CAGCACTGACTCACCTCGCTTATTGGCCTCCCCCTCCAGCAGGAGTATTGACATTTCAGCTACTATCCCCAAGTT TACAAACACGCAGATTACGGAACATTACTCCACCTGTATCAAACTGTCCACTGAAAATAAAATCACTACCAAGAA AGTGGCTGCGGGTACTCTGGATGCCAGCACCAAGATCTATGCTGTGCGCGTGGATGCCGTCCATGCCGATGTATA CAGAGTCCTTGGGGGGCCTGGGCAAAGATGCACCGTCTTTGGAAGAAGTAGAAGGCCATGTTGCTGATGGAAGTGC TACTGAAATGGGAACAACCAAAAAGGCTGTAAAGCCAAAGAAGAAGCACTTACACAGAACTATTGAGCAGAACAT AAACAACCTCAATGTCTCCGAAGCAGATCGGAAGTGTGAGATTGATCCCATGTTTCAGAAGACAGCAGCCTCATT TGATGAGTGCAGCAGCAGGGGTGTTTCTGTCCACTCTCCACTGCCAGGACTACAGAAGTGAACTGCTGTTTCC CTCTGATGTCCAGACTCTCCACGGGAGAACCTCTCGAGTTGCCAGAGTTAGGTTGTGTAGAAATGACAGATTT AAAAGCGCCCTTGCAGCAGTGTGCAGAAGATCGCCAGATCTGCCCTTCCCTGGCCGGGTTCCAGTTTACACAGTG GGACAGTGAAACACATAATGAGTCTGTGTCGGCCCTGGTAGACAAGTTTAAGAAGAATGACCAGGTATTTGACAT CAATGCTGAAGTTGACGAGAGTGACTGTGGAGACTTCCCCGATGGGTCCCTGGGGGATGACTTTGATGCCAACGA TGAACCTGACCACCGCAGTTGGGGATCATGAAGAGTTCAGGAGCTGGAAGGAGCCCTGCCAGGTTCAGAGCTG CCAGGAAGAAATGATTTCCCTTGGGGATGGAGACATCAGGACCATGTGCCCCCTTCTGTCTATGAAACCTGGAGA ATATTCTTATTTCAGTCCTCGGACCATGTCGATGTGGGCCTGGCCCGGATCACTGGCGCTTTAGGCCTCGACGCAA ACAAGATGCTCCTTCCCAATCAGAAAACAAAAAGAAGAGAGTACAAAAAAAGATTTTGAAATTGACTTTGAAGATGA TATTGACTTTGATGTATATTTTAGAAAAACAAAGGCTGCTACTATTCTGACCAAGTCCACTTTGGAGAACCAGAA TTGGAGAGCTACCACCCTTCCTACAGATTTCAACTACAATGTTGACACTCTGGTCCAGCTTCACCTCAAACCAGG CACCAGGTTACTTAAGATGGCCCAGGGCCATAGGGTAGAGACTGAGCATTATGAAGAAATTGAAGACTATGATTA CAACAACCCTAACGACACCTCCAACTTTTGCCCTGGATTACAGGCTGCTGACAGTGATGAAGATTTGGATGA CTTATTTGTGGGACCTGTTGGGAACTCTGACCTCTCACCTTATCCTTGCCATCCACCTAAGACAGCACAACAGAA TGGTGACACTCCAGAAGCCCAAGGATTAGACATCACAACATATGGGGAGTCAAACTTGGTAGCTGAGCCTCAGAA GGTAAATAAAATTGAAATTCACTATGCCAAGACTGCCAAAAAGATGGACATGAAGAAACTGAAGCAGAGCATGTG GAGTCTGCTGACAGCGCTCTCCGGAAAGGAGGCAGATGCAGAGGCAAACCACAGGGAAGCTGGAAAAGAAGCGGC CCTGGCAGAAGTGGCTGACGAGAAGATGCTTAGCGGGCTCACGAAGGACCTGCAGAGGAGCCTGCCCCCTGTCAT GGCTCAGAACCTCTCCATACCTCTGGCTTTTGCCTGTCTCCTACATTTAGCCAATGAAAAGAATCTAAAACTGGA ${ t AGGAACAGAGGACCTCTCTGATGTTCTTGTGAGGCAAGGAGAT{ t { t TGA}}{ t GTCACTATGGAGAAGTCAGCAGCAGGAG}$ GCCCATCCCTTACTCAGTTGCCGGGACATCCCCAGTCTCGGGGGAAGAAGATGCCATGGGCTTATACCCAGGCTG TAGCCAACTACCAACGTGCCTGTTTGTTTGCTCTTTCCTTCTCTCCATCATAGTCTGGGTGCCAGCGCCCTG AAGCTCCGTGCTCAACTGATTAAACTTTACTGCCCTATGGTGACCATCTAGGAGAGGGGGAGGGCAGAGGGGGTGA GGGTACTATTCTGGATTGAGAAAACCTATATCCATTCTTTATATCAATGTATAGTTTTAGTCTCCTAAATTGATC TGTTATTTTCCAAACTATTCTCTTGTAGAAAATTTTCCAGTGGGCACTTAATGGTGCCCTTGAAGAACTTCCTAA TCCATGTACATAAAATACATCATATGTACACTTATAAATGTATATAGAATGCTCAAAAATAAAATTCTTAATAAT AGAACTGGCAAAATA

MGPPGPALPATMNNSSSETRGHPHSASSPSERVFPMPLPRKAPLNIPGTPVLEDFPQNDDEKERLQRRRSRVFDL QFSTDSPRLLASPSSRSIDISATIPKFTNTQITEHYSTCIKLSTENKITTKNAFGLHLIDFMSEILKQKDTEPTN FKVAAGTLDASTKIYAVRVDAVHADVYRVLGGLGKDAPSLEEVEGHVADGSATEMGTTKKAVKPKKKHLHRTIEQ NINNLNVSEADRKCEIDPMFQKTAASFDECSTAGVFLSTLHCQDYRSELLFPSDVQTLSTGEPLELPELGCVEMT DLKAPLQQCAEDRQICPSLAGFQFTQWDSETHNESVSALVDKFKKNDQVFDINAEVDESDCGDFPDGSLGDDFDA NDEPDHTAVGDHEEFRSWKEPCQVQSCQEEMISLGDGDIRTMCPLLSMKPGEYSYFSPRTMSMWAGPDHWRFRPR RKQDAPSQSENKKKSTKKDFEIDFEDDIDFDVYFRKTKAATILTKSTLENQNWRATTLPTDFNYNVDTLVQLHLK PGTRLLKMAQGHRVETEHYEEIEDYDYNNPNDTSNFCPGLQAADSDDEDLDDLFVGPVGNSDLSPYPCHPPKTAQ QNGDTPEAQGLDITTYGESNLVAEPQKVNKIEIHYAKTAKKMDMKKLKQSMWSLLTALSGKEADAEANHREAGKE AALAEVADEKMLSGLTKDLQRSLPPVMAQNLSIPLAFACLLHLANEKNLKLEGTEDLSDVLVRQGD

TTCCAAGAAGAAGAATTTGCACCCTCGGGATATTGATGCATTTTTGGCTGCAGCGGCAGCTCAGTCGTTTCTATGA TGATGCCATCGTGTCGCAGAAGAAGGCAGATGAAGTATTGGAGATTTTGAAGACGGCCAGTGATGATCGGGAATG TGAAAATCAGCTGGTTCTGCTGGTTTCAACACCTTTGATTTCATTAAAGTGTTGCGGCAGCACAGGATGAT GATTTTATACTGTACCTTGCTGGCCAGTGCACAAAGTGAAGCTGAAAAGGAAAGGATTATGGGAAAGATGGAAGC TGACCCAGAGCTATCCAAGTTCCTCTACCAGCTTCATGAAACCGAGAAGGAGGATCTGATCCGAGAGGAAAGGTC CCGGAGAGAGCGAGTGCGTCAGTCTCGAATGGACACAGATCTGGAAACCATGGATCTCGACCAGGGTGGAGAGGC ACTGGCTCCACGGCAGGTTCTGGACTTGGAGGACCTGGTTTTTACCCAAGGGAGCCACTTTATGGCCAATAAACG $\tt CTGTCAGCTTCCTGATGGATCCTTCCGTCGCCAGCGTAAGGGCTATGAAGAGGTGCATGTGCCTGCTCTGAAGCC$ CAAGCCCTTTGGCTCAGAAGAACAACTGCTTCCAGTGGAAAAGCTGCCAAAGTATGCCCAGGCTGGGTTTGAGGG CTTCAAAACACTGAATCGGATCCAGAGTAAGCTCTACCGTGCTGCCCTTGAGACGGATGAGAATCTGCTGCTGTG TGCTCCTACTGGTGCTGGGAAGACCAACGTGGCCCTGATGTGCATGCTCCGAGAGATTGGGAAACACATAAACAT GGACGGCACCATCAATGTGGATGACTTCAAGATTATCTACATTGCCCCCATGCGCTCCTTGGTGCAGGAGATGGT AGAAGAGATCAGTGCCACTCAGATCATCGTCTGCACCCCGAGAAGTGGGACATCATCACCCGCAAGGGTGGTGA GCGCACCTACACCCAGCTGGTGCGGCTCATCATTCTGGATGAGATTCATCTTCTCCACGATGACAGAGGTCCTGT CTTAGAAGCTTTAGTGGCCAGGGCCATCCGAAACATTGAGATGACCCAAGAGGATGTCCGACTCATTGGTCTCAG TGCCACCCTACCCAACTATGAAGATGTAGCCACCTTTCTACGTGTTGACCCTGCCAAGGGTCTCTTTTACTTTGA CAACAGCTTCCGTCCAGTGCCTCTGGAACAGACATATGTGGGTATCACAGAGAAAAAAGCTATCAAGCGTTTCCA GATCATGAATGAAATCGTCTATGAAAAAATCATGGAACATGCTGGAAAAAAATCAGGTGCTGGTGTTTGTCCACTC CCGGAAGGAGACTGGAAAGACAGCCAGGGCCATCCGGGACATGTGCCTAGAAAAGGACACTCTGGGTCTGTTTCT GAGGGAGGGCTCAGCCTCCACAGAAGTCCTGCGAACAGAAGCTGAGCAGTGCAAGAACCTAGAGCTGAAGGATCT TCTGCCTTATGGCTTTGCTATTCATCACGCAGGCATGACCAGGGTTGACCGAACACTCGTGGAGGATCTTTTTGC TGATAAACATATTCAGGTTTTAGTTTCCACAGCAACTCTAGCTTGGGGTGTGAATCTCCCTGCACATACAGTCAT CATCAAAGGCACCCAGGTGTACAGTCCAGAGAAGGGGGCGTTGGACAGAACTGGGAGCACTGGACATTCTGCAGAT GCTGGGACGTGCCGGAAGACCCCAGTATGACACCAAGGGTGAAGGCATACTCATCACATCTCATGGGGAGCTACA GTACTACCTGTCCCTCCAATCAACAACTTCCTATTGAAAGCCAGATGGTTTCAAAGCTTCCTGACATGCTCAA CCGAATGCTGCGATCCCCAACCCTCTATGGCATCTCTCATGATGACCTCAAGGGAGATCCCCTGCTGGACCAGCG CCGACTAGATCTGGTTCATACAGCTGCCCTGATGCTGGACAAGAACAATCTGGTCAAGTACGACAAGAAGACGGG CAACTTCCAGGTGACAGAACTGGGCCGTATAGCCAGCCACTACTACATCACCAATGATACAGTGCAGACTTACAA ${\tt CCAGCTGCTGAAGCCCACCCTGAGTGAGATTGAGCTTTTCAGGGTCTTCTCATTGTCCTCTGAGTTCAAGAACAT}$ CACAGTGAGAGGAGGAGGAGCTGGAGCTGCAGAAGTTGCTGGAGAGGGTGCCTATCCCTGTAAAGGAGAGCAT TGAGGAACCCAGTGCTAAGATCAACGTTCTTCTGCAAGCCTTCATCTCACAGCTGAAATTGGAGGGCTTTGCACT AGGTTGGGCACAGCTTACAGACAAGACCCTGAACCTCTGCAAGATGATCGACAAACGCATGTGGCAGTCCATGTG TCCTCTGCGCCAGTTCCGGAAACTCCCTGAGGAAGTAGTGAAGAAGATTGAGAAGAAGTTTCCCCTTTGAGCG TCTGTACGACCTGAATCATAATGAGATTGGGGAGCTTATCCGCATGCCAAAGATGGGGAAGACCATCCACAAATA TGTCCATCTGTTTCCCAAGTTGGAGTTGTCAGTGCACCTGCAGCCTATCACACGCTCCACCCTGAAGGTGGAGCT GACCATCACGCCAGACTTCCAGTGGGATGAAAAGGTGCATGGTTCATCCGAGGCTTTTTGGATTCTGGTGGAGGA TGTGGACAGCGAGGTGATTCTGCACCATGAGTATTTTCTCCTCAAGGCCAAGTACGCCCAGGACGAGCACCTCAT TACATTCTTCGTGCCTGTCTTTGAACCGCTGCCCCCTCAGTACTTCATCCGAGTGGTGTCTGACCGCTGGCTCTC TTGTGAGACCCAGCTGCCTGTCTCCTTCCGGCACCTGATCTTGCCGGAGAAGTACCCCCCTCCAACCGAACTTTT GGACCTGCAGCCCTTGCCCGTGTCTGCTCTGAGAAACAGTGCCTTTGAGAGTCTTTACCAAGATAAATTTCCTTT CTTCAATCCCATCCAGACCCAGGTGTTTAACACTGTATACAACAGTGACGACAACGTGTTTGTGGGGGCCCCCAC GGGCAGCGGGAAGACTATTTGTGCAGAGTTTGCCATCCTGCGAATGCTGCAGAGCTCGGAGGGGGCGCTGTGT GTACATCACCCCCATGGAGGCCCTGGCAGAGCAGGTATACATGGACTGGTACGAGAAGTTCCAGGACAGGCTCAA CAAGAAGGTGGTACTCCTGACAGGCGAGACCAGCACAGACCTGAAGCTGCTGGGCAAAGGGAACATTATCATCAG CACCCTGAGAAGTGGGACATACTTTCCCGGCGATGGAAGCAGCGCGAAGAACGTGCAGAACATCAACCTCTTCGT

881/6881 FIGURE 820B

GGTGGATGAGGTCCACCTTATCGGGGGCGAGAATGGGCCTGTCTTAGAAGTGATCTGCTCCCGAATGCGCTACAT $\tt CTCCTCCCAGATTGAGCGGCCCATTCGCATTGTGGCACTCAGCTCTTCGCTCTCCAATGCCAAGGATGTGGCCCA$ CTGGCTGGGCTGCAGTGCCACCTCCACCTTCAACTTCCCATCCCAATGTGCGTCCCGTCCCCTTGGAGCTGCACAT ${\tt CCAGGGCTTCAACATCAGCCATACACAAACCCGCCTGCTCTCCATGGCCAAGCCTGTGTACCATGCTATCACCAA}$ GCACTCGCCCAAGAAGCCTGTCATTGTCTTTGTGCCGTCTCGCAAGCAGACCCGCCTCACTGCCATTGACATCCT · CACCACCTGTGCAGCAGACATCCAACGGCAGAGGTTCTTGCACTGCACCGAGAAGGATCTGATTCCGTACCTGGA GAAGCTAAGTGACAGCACGCTCAAGGAAACGCTGCTAAATGGGGTGGGCTACCTGCATGAGGGGCTCAGCCCCAT GGAGCGACGCCTGGTGGAGCAGCTCTTCAGCTCAGGGGGCTATCCAGGTGGTGGTGGCTTCTCGGAGTCTCTGCTG GGGCATGAACGTGGCTGCCCACCTGGTAATCATCATGGATACCCAGTACTACAATGGCAAGATCCACGCCTATGT GGATTACCCCATCTATGACGTGCTTCAGATGGTGGGCCACGCCAACCGCCCTTTGCAGGACGATGAGGGGCGCTG TGTCATCATGTGTCAGGGCTCCAAGAAGGATTTCTTCAAGAAGTTCTTATATGAGCCATTGCCAGTAGAATCTCA CCTGGACCACTGTATGCATGACCACTTCAATGCTGAGATCGTCACCAAGACCATTGAGAACAAGCAGGATGCTGT GGACTACCTCACCTGGACCTTTCTGTACCGCCGCATGACACAGAACCCCAATTACTACAACCTGCAGGGCATCTC ${\tt CCATCGTCACTTGTCGGACCACTTGTCAGAGCTGGTGGAGCAGACCCTGAGTGACCTGGAGCAGTCCAAGTGCAT}$ CAGCATCGAGGACGAGATGGACGTGGCGCCTCTGAACCTAGGCATGATCGCCGCCTACTATTACATCAACTACAC CACCATTGAGCTCTTCAGCATGTCCCTCAATGCCAAGACCAAGGTGCGAGGGCTTATCGAGATCATCTCCAATGC AGCAGAGTATGAGAACATTCCCATCCGGCACCATGAAGACAATCTCCTGAGGCAGTTGGCTCAGAAGGTCCCCCA CAAGCTGAATAACCCTAAGTTCAATGATCCGCACGTCAAGACCAACCTGCTCCTGCAGGCTCACTTGTCTCGCAT GCAGCTGAGTGCTGAGTTGCAGTCAGATACGGAGGAAATCCTTAGTAAGGCAATCCGGCTCATCCAGGCCTGCGT GGATGTCCTTTCCAGCAATGGGTGGCTCAGCCCTGCTCTGGCAGCTATGGAACTGGCCCAGATGGTCACCCAAGC ${\tt CATGTGGTCCAAGGACTCATACCTGAAGCAGCTGCCACACTTCACCTCTGAGCATATCAAACGTTGCACAGACAA}$ GGGAGTGGAGAGTGTTTTCGACATCATGGAGATGGAGGATGAAGAACGGAACGCGTTGCTTCAGCTGACAG ${\tt CCAGATTGCAGATGTGGCTCGCTTTTGTAACCGCTACCCTAATATCGAACTATCTTATGAGGTGGTAGATAAGGA}$ CAGCATCCGCAGTGGCGGGCCAGTTGTGGTGCTGGTGCAGCTGGAGCGAGGAGGAAGTCACAGGCCCTGTCÄT TGCGCCTCTCT1CCCGCAGAAACGTGAAGAGGGCTGGTGGTGGTGATTGGAGATGCCAAGTCCAATAGCCTCAT CAACTACACTCTGTACTTCATGAGTGACGCTTACATGGGATGTGACCAGGAGTACAAATTCAGCGTGGATGTGAA AGAAGCTGAGACAGACAGTGATTCAGATTGAGTCCTGAGGCATTTACTTTTGGGTAAAGGAGAGTTGAGCCTGAA TGGTGCTGTCCCCGCCTACCTCCACTTCCTTTCCCTTGCTCACTCTGGATCCAGTGACAGCAGGTGTCATGGGTC AAGCATAAATCATATATAGCATTTTCAGGCATGTTCCTGGTAGTTCTTTTGAGTCTGACATTCTAATAAAATAAT TTGTAGAAACC

 ${\tt MADVTARSLQYEYKANSNLVLQADRSLIDRTRRDEPTGEVLSLVGKLEGTRMGDKAQRTKPQMQEERRAKRRKRD}$ EDRHDINKMKGYTLLSEGIDEMVGIIYKPKTKETRETYEVLLSFIQAALGDQPRDILCGAADEVLAVLKNEKLRD KERRKEIDLLLGQTDDTRYHVLVNLGKKITDYGGDKEIQNMDDNIDETYGVNVQFESDEEEGDEDVYGEVREEAS DDDMEGDEAVVRCTLSANLVASGELMSSKKKDLHPRDIDAFWLQRQLSRFYDDAIVSQKKADEVLEILKTASDDR ECENQLVLLLGFNTFDFIKVLRQHRMMILYCTLLASAQSEAEKERIMGKMEADPELSKFLYQLHETEKEDLIREE RSRRERVRQSRMDTDLETMDLDQGGEALAPRQVLDLEDLVFTQGSHFMANKRCQLPDGSFRRQRKGYEEVHVPALKPKPFGSEEQLLPVEKLPKYAQAGFEGFKTLNRIQSKLYRAALETDENLLLCAPTGAGKTNVALMCMLREIGKHI NMDGTINVDDFKIIYIAPMRSLVQEMVGSFGKRLATYGITVAELTGDHQLCKEEISATQIIVCTPEKWDIITRKG GERTYTQLVRLIILDEIHLLHDDRGPVLEALVARAIRNIEMTQEDVRLIGLSATLPNYEDVATFLRVDPAKGLFY FDNSFRPVPLEQTYVGITEKKAIKRFQIMNEIVYEKIMEHAGKNQVLVFVHSRKETGKTARAIRDMCLEKDTLGL FLREGSASTEVLRTEAEQCKNLELKDLLPYGFAIHHAGMTRVDRTLVEDLFADKHIQVLVSTATLAWGVNLPAHT VIIKGTQVYSPEKGRWTELGALDILQMLGRAGRPQYDTKGEGILITSHGELQYYLSLLNQQLPIESQMVSKLPDM ${ t LNAEIVLGNVQNAKDAVNWLGYAYLYIRMLRSPTLYGISHDDLKGDPLLDQRRLDLVHTAALMLDKNNLVKYDKK$ TGNFQVTELGRIASHYYITNDTVQTYNQLLKPTLSEIELFRVFSLSSEFKNITVREEEKLELQKLLERVPIPVKE ${\tt SIEEPSAKINVLLQAFISQLKLEGFALMADMVYVTQSAGRLMRAIFEIVLNRGWAQLTDKTLNLCKMIDKRMWQS}$ MCPLRQFRKLPEEVVKKIEKKNFPFERLYDLNHNEIGELIRMPKMGKTIHKYVHLFPKLELSVHLQPITRSTLKV ELTITPDFQWDEKVHGSSEAFWILVEDVDSEVILHHEYFLLKAKYAQDEHLITFFVPVFEPLPPQYFIRVVSDRW ${\tt LSCETQLPVSFRHLILPEKYPPPTELLDLQPLPVSALRNSAFESLYQDKFPFFNPIQTQVFNTVYNSDDNVFVGA}$ PTGSGKTICAEFAILRMLLQSSEGRCVYITPMEALAEQVYMDWYEKFQDRLNKKVVLLTGETSTDLKLLGKGNII ISTPEKWDILSRRWKQRKNVQNINLFVVDEVHLIGGENGPVLEVICSRMRYISSQIERPIRIVALSSSLSNAKDV AHWLGCSATSTFNFHPNVRPVPLELHIQGFNISHTQIRLLSMAKPVYHAITKHSPKKPVIVFVPSRKQTRLTAID ILTTCAADIQRQRFLHCTEKDLIPYLEKLSDSTLKETLLNGVGYLHEGLSPMERRLVEQLFSSGAIQVVVASRSL ${\tt CWGMNVAAHLVIIMDTQYYNGKIHAYVDYPIYDVLQMVGHANRPLQDDEGRCVIMCQGSKKDFFKKFLYEPLPVE}$ SHLDHCMHDHFNAEIVTKTIENKQDAVDYLTWTFLYRRMTQNPNYYNLQGISHRHLSDHLSELVEQTLSDLEQSK CISIEDEMDVAPLNLGMIAAYYYINYTTIELFSMSLNAKTKVRGLIEIISNAAEYENIPIRHHEDNLLRQLAQKV PHKLNNPKFNDPHVKTNLLLQAHLSRMQLSAELQSDTEEILSKAIRLIQACVDVLSSNGWLSPALAAMELAQMVT QAMWSKDSYLKQLPHFTSEHIKRCTDKGVESVFDIMEMEDEERNALLQLTDSQIADVARFCNRYPNIELSYEVVD KDSIRSGGPVVVLVQLEREEEVTGPVIAPLFPQKREEGWWVVIGDAKSNSLISIKRLTLQQKAKVKLDFVAPATG AHNYTLYFMSDAYMGCDQEYKFSVDVKEAETDSDSD

GTGCTCAGGCACTTGGGAGGTCTGGGAGCTCCTCAGTGTGACCGCTGGGACCCACCAGGACTTTTTCCTTTGTCA GAAGCCTTTGGTTGCTTGCTGCTCTGCATGTGTCACTGTGGAGGGGCAATAGAGCAAGGCCTTACATGGCATGG TCATTTCTCGGGCCCAGGAGGCTTAGAGGCCTGCCCCTGGCGCTCAAGTATTGAACCAGAACCATGGGGTGGCAC TGAAGCCTCCTCACCACATCATGATAAATAACGGGGACATTCACAGAGCAGGCACTGTTTCCTCAGTCCATGGCT GAGTACATCACCGGTGTTTTCTCTCTTATTCCTCCCATCAAGCCTAAAAGGAATCTCTATTGGAGATACTGCCAT TAGTGTTCCTTTTATAGGTGAGGAACTGAGGCATAGAGGGTTCCCCAGTTGAACCAACTGATAAATAGTAGAACT TGGATTTTAATTCAGTCTTGATGCCAGGGATAAGGCTCTTACTTTCTACCTTAGGCTATTTCTAGGAAACGCAGG AGAGTGTTGAAGGGGCAGAGAAAGGGATCCAGTTCCTTTCTGTCCCGCATCCTAGTCCCTGAGAAGCAAAGAAGA ATGTGTGGCTTCTTTTGCTTTTGTTGTCATCCCACACATCTCCAGGGGACCTGGGCTCTTGATCTTGGCC TCTTCCCCTTTAACTGTTAAGTGGGAGCAGGTAAGGGGGTACAGTAGGGCTGGCCTGGAGTTAGAGGCTTGGATG CCTTAGCTCCTCTGTCTGCACTCCAGAACTGCCTGACTTCATTTCGTATGTTGTCCTTTGTTTTGACAATTGATC GTATACAACAGTGACGACAACGTGTTTGTGGGGGCCCCCACGGGCAGCGGGAAGACTATTTGTGCAGAGTTTGCC ATCCTGCGAATGCTGCAGAGCTCGGAGGGGCGCTGTGTACATCACCCCCATGGAGGCCCTGGCAGAGCAG GTATGACGTGGCGCTGTGTCATGTGAATTTCCCAAGAAGCATTTCATCTGTGATTCCGTATGAAGGCTTTCTAAG CCCTGAAATTTGCAGGGTCATTTCCTCAGTTTGTGTATTAAAGAAAAGCTGCCCCAGCCAAGCGTGGTGGCTCAC GCCTGTAATCCCAGCACTTTGGGAGGCCGAGGCGGCAGATCTCCGGAGATCAGGAGTTCGAGACCAGCCTGGCC AACATGGTGAAACCCTGTCTCTACTAAAAATACAGAAATTAGCTGGGCGTGGTGGTGTGCGCCTGTAATCCCAGC TACTTGGAAGGCTGAGGCAGGAGATCGCTTGAACCCGGGAGGCGGAGGTTGCAGTGAGCCAAGTTCGCACCACT GCACTCCAGCCTGGGCAACAAGAGCGAGACTTCATCTCA

WO 2004/030615 PCT/US2003/028547

884/6881 FIGURE 823

GGCCCCGGGCCCCGCTGGAGGTCGCCGAGGAGCCACAGGGCTGACTGGTCTGCCCGGGCCCCAGGAGTGCCT GGTGTAGCAGTCGCGGAGCCATCCCGGCGTCTGCTGCCATGACCGACTCTCCCCTCAGAGGAGACTCTTCCTCAG GGGGACGCTGCGACCACCGCCTGCGCCCCTCCGGACTGGTTCCTTGGGCCCCGGAAGCTCGCGGGGGCCCTGCG CTCTACTCCGAGAGCTCACGCCGCGTTCTCCTCGGCCGCCTCTGGCGCCGGCTGCACGGCCGTCCTGGCCATGCC TCTGCCTTGATGGCGGCGTTAGCCGGCGTCTTCGTTTGGGACGAGGAGGAGGATCCAGGAGGAGGAGTTGCAGAGA TCTATTAATGAGATGAAGCGGTTGGAAGAAATGTCAAATATGTTTCAGAGCTCTGGAGTCCAGCACCACCCTCCA GAACCAAAAGCCCAAACAGAAGGGAATGAAGATTCAGAGGGCAAAGAGCAACGTTGGGAAATGGTGATGGATAAG GATGTGACACCTCGGCAGTTCTTCAATGTTCAGCTGGACACAGAGTATAGAAAAAAATGGGATGCCCTGGTAATC AAGCTGGAGGTGATTGAGAGGGATGTGGTTAGTGGTTCCGAGGTTCTTCACTGGGTAACCCATTTTCCTTATCCA ATGTACTCACGGGATTATGTTTATGTTCGGCGGTATAGTGTGGATCAGGAAAACAACATGATGGTGTTGGTGTCG CGTGCTGTGGAGCATCCGAGTGTGCCAGAGTCTCCAGAATTCGTCAGGGTCAGATCATATGAATCCCAAATGGTT TTTCCTCGCTACTGTGTTAGTTGGATGGTTTCCAGTGGCATGCCAGATTTCCTGGAGAAGCTGCACATGGCCACT CTGAAAGCCAAGAATATGGAGATTAAAGTAAAGGACTACATCTCAGCTAAGCCTCTGGAAATGAGTAGTGAAGCC AAGGCCACCAGCCAGTCCTCTGAGCGAAAGAACGAGGGCAGCTGTGGCCCTGCTCGGATTGAGTATGCTTGACAG GCTTTGGGATAAGAAGGGACAAGGTGCTTCTAGCCCTGTCTCAGTCCGTTATCACTCTGCTGTAGAAGGGGGACA TGCCACATGTATTAGAAGGCATCTGCTGTAACTTCCAGTGCAAGATAATTCAATAACTGATGTCCCATTTCATTC AGAGCCCTTATTGCTCTTATCAAAACAGAAGAAGGCTACATTTGTGGGAGTGTTGTCATATTCTCAGGCCAACTG TTTTGAAATTCGGTATCTCACTGAGCTAATCTGGAACAAACCTCTCACCTCAGGCCAGAAGGGGATGACCTCCAT TTGCTTCTCTGAGTAGTTTCCTCTGCTGACATTCCAAATCCCACCATCGATTGTGCAGCGCTTTGGATTTCCTTC AGTTCTCCAGGTCCACCTGGAAAGTATAGTTGGCCAGTTGAGTCTCTCAAATGAGGGGCTACTGGGAGTGCTCTT GGTAACAATCATGATGTGAATGGGTGTGAACGATACTTGGCTATGTTAAGTGCCTTGTCCGCACCTTGCTTTTAT CTCTAGAGACATGAAGTTATTATTTATTTTTTTTTTTTAAGTAGAGATGGAGTTTCACTCTGTTTCCCAGGCT TATCACCCATTGACTCACCTTATCCAAAGCAAGTTTCCTGTGAATCGGCCAGTTCTTCTATATTCATTGGATCAT TGCCTCCTTCCTAACCTTCCCCATTTACCAAGAACACTGGGAGACTAATCCTTTTAGATAGTAGCTTTTTGATGC TCAAAACATCACATTTAAATTTAGTTTAAAAATTTTTTAACTTTTGTGTCAAATAGGAGTTGAGGAATTGAGCAG GATTCTACCCTAGTCCGATTGTATAGAAAACACCATTTTGATTCAGGTATTATTTTTCATATTTCAGGTTTGACT TGTTCTTTTCAGAAGGCTAAAGTCAGAGGAATGGGGGCTGGGCCACTCCCTTGGAGCTCTCAGATCTACAGACAA GCTGTGTGAATGCATAGATGTAATCTTGTCTCAAATACTAATACAGTGGAGATTTGGTTTATGTTACCATTAAGT TCCTCTAAAAAGTTTTTCTTCCTCTCTCAGAGCCAAAATAAAAGTGAACTACACTGTTCAGATAAGGTCACAAT CTGATGCTGTCAGTTTGACCGAGCTGGTTTTGCTTATGGTCATGCTGCAATTTGTTAGAATAATAGGGATCAAGT CCTGCTTGCTACTGTTTTGTGGTGTTGAAAAGTGGTTTAAACCTGAGACTAACTTAAACACTTCCTTGACCTTCT TGTTGCCTGTTCATTTTTGTGCCAAGGAAGTAGCTGCCCCAGTGTATGTCTTGCCTTCTCCGCGTCATTGTTGGA AGAGGAGATGCATCGAGCAGTCCCAGCTGCTTTTCATTTATTACTTCTTTCCAGGACCTGACAGAAGTCA GGGAAGAGTCCCTGGGTTATGTCCAAACTTAGCACCTGCAATTGTTGGGATGTGGÁTGGATGTGCATAAGAGA

885/6881 FIGURE 824A

 $\tt CGCGCTTAGGGATCCGGCCGTGGCCGAGCGCGCGGCGGTAAGACCGCGGGTGACTAGCATGCAGATACCCATGCT$ $\tt CTGACTTTCTGCCCCTCCACTGACATGGCCCACCGGGGTGGGGAGAGGGACTTCCAGACTTCAGCTCGACGCATG$ GGCACCTCGCTGCTCTTCCAGCTTTCAGTGCATGAACGGGAGCTGGACCTGGTTTTTCTGGATCATAGCTATGCC CACGAAAGTACCATTGAATCAGACGTCCCAATAGATGTGGAGACGGTCACATCAACGCCTATGCCACTCTATGAC AATCAGAAGGCACGCAGCGTGATGAATGAGTGTGAACGGCATGTCATCTTTGCCAGGACTGATGCCACCT CGTGTTGCTGTGGACAAGTGTGCAAGGAGAGTGCGGCAGGCTCTGGCAAGTGTGAGCTGGGATACCAAGCTGATC CTGAAGGGGAAGATCCCAACCTTGATTGACCGGATGCTTGTTGTCATCCAACACAAAGACTGGGGCTGCAGGAGCT GAGGCCTTGTCTCCTACTGAAGAGGCCCTGGGACCCTGCTGTGGGTGTGCTTTCTCATAACAAACCAAGCAAA CTCCCTGGCTCTCCGCTGATTCTCATCGCCTCCTCTGGTCCCTCCAGCTCTGTGTTTCCCACTTCACGCCGCCAC CGCTTCTGGCAATCTCAGCTGTCCTGCTTGGGCAAGGTCATCCCTGTAGCCACCCATCTGCTGAACAATGGCAGT GGGGTAGGAGTTCTACAGTGTCTCGAGCATATGATTGGGGCAGTGAGAAGCAAAGTGCTGGAGATTCACAGCCAT TTCCCACACAAACCCATTATCTTGATTGGCTGGAACACAGGAGCTTTGGTGGCCTGTCATGTGTCAGTAATGGAG TATGTCACTGCAGTTGTCTGCCTTGGGTTTCCTCTGCTTACTGTGGATGGCCCCAGAGGGGATGTAGATGATCCC CTCTTGGATATGAAGACTCCAGTCCTCTTTGTCATTGGTCAGAATTCCCTTCAATGTCACCCTGAAGCCATGGAG GACTTCCGGGAGAAGATTCGAGCTGAGAACAGCTTGGTGGTGGTTGGGGGGAGCTGATGACAATCTCAGAATAAGC ${\tt AAAGCAAAGAAGAAATCAGAAGGGTTGACTCAGAGCATGGTGGACAGATGTATTCAGGATGAGATTGTGGACTTT}$ CTGACTGGAGTGCTCACTCGTGCTGAGGGTCACATGGGCTCTGAACCTCGGGATCAGGATGCTGAGAAGAAGAAG AAGCCCCGCGATGTGGCCCCAGAGACTTGGCCTTTGAAGTCCCTGAGCGGGCAGTCGACCTGCCTCCCCAGCT GCCAAGCTGCCCGCCTCACCCTCAGGCTCAGAGGATCTCTCCAGTGTGTCCAGCAGCCCCACCTCCAGTCCCAAG ACCAAAGTGACCACAGTGACCTCTGCCCAGAAGTCCAGTCAGATTGGAAGTTCTCAGCTGCTGAAGAGACATGTG CAGCGGACAGAAGCTGTGCTGACCCACAAACAAGCTCAAGCACAGTTTGCTGCTTTTCTGAAACAAAATATGCTG GAGAAAGAGGATCTTAGGGTTCAGCTGAAGCGACACCATCCCTCGAGTCCCCTTCCTGGCAGTAAGACCTCCAAA CGACCGAAGATCAAGGTGTCCCTTATCTCCCAAGGGGACACAGCTGGAGGGCCTTGTGCTCCTTCCCAAGGAAGT GCTCCAGAAGCTGCAGGTGGGAAGCCCATCACCATGACACTGGGGCAGGCTTCAGCAGGGGCCAAGGAGCTCACA GGGGCCACATCAGCCAGCAGCCTCCCAAGGCCTCAGCTTCAGCTTGCAGGATATCAGCAGCAAGACCTCTGGC CTTCCAGCAAATCCCTCCCCAGGACCAGCCCCACAGGCTTGAAGGTCCCCACCACCATTACTCTGACACTTCGTG GCCAGCCGAGCAGGATCACTACACTGAGCCCTATGGGCTCAGGAGCAGCCCCATCCGAGGAGTCCTCTTCCCAGG TGCTGCCCTCCAGCTCACAGCGCCTGCCTCCAGCACCCTGAAGATGCTGTGTATATGTCCTCCTTACCAAGTTG GTGATGGCTGCCTCATGGTGGGCCCTGGACAGGTGTGTGGTCCTGCTGAGCTGTCCACGTGTCGGAAGACCTGTT TAAGACAGTCATTTTTGCCTCTCCGCCAACTGTCTTCAGAGAAACCATTAGGTTAGGTGATACGGTGCCAGCAAG GGAAGCACCATCGTCCAGGATCTGCAAATCTGGTTCCTGGGAACCCCAGACTCCTCAGCAGATCTGGCTGTACAT GGATTTCGGGAGTTAGAATGGAAAGCTCTTTGCTAAAGACTGGAGTCATCCTGGCCTGCCAACTGGTGGTTCAGA GCCGGACGGGCTTGTTTTGGACATCACTGTTGCCTTCACTCAGCAGCCACGGGAGAGTGCTCCCCATGCAACTCC ACCTTAGAAACCACGTCAGATACTGAGTAGCTTGCTGACTCCTGGAAACTTCTGGTTTTTGTTAGTATCATAATG AAGGCAAAGAGAACTAGGCTGTCATCTTTCAGCCTCTTTGACTTACTCTAGATGTTGGGAGCAGTGGTTGCCAGG TGAAACCTGGGCCCTTTGTCTTTTTCACCATGCTTTGGGCAGTTTCTGTATCCAGAGAGTCCGCAGGTTCAGATA AGCTGAAGAAGAGTAATAGAACAGCAAAGGAAGTGGCTTGAAGGATGTGCTAGTAAGCCCTGTGGTTTGTGCTTA GGTCTCTGCTCTGCTACCCAAGGAACTGGTGGTTCAGCTGGAGATAAAAAGAAGAATTTGCCAAGTCAGAGAAGA AACCCCAACCCCGGAAAATCCTCTGTCTCCAGTCTCTGGAGGTGAAGCAGGGACAATAAGCTAAGGTAGTATCTT

886/6881 FIGURE 824B

GGCCATCCCAGGAAACTTGTGGCATTAGGACGATGAAGGCCATGCTTCAGTGTTTTCGTTTCTATTTCATGAGAC TTTTTGTCTTCCTGCTTACAAGTGGGAAGATGATTGACAGTGACTCTACTATGCAGGGCTGTTGGTACCAACCTG AGCCCTATAGGTGGCAGTCCCTGGAGAAGTGGTCACAGAAGATGGAGCTCTGATCCCCTGCTTACCTCTTCACAA CACTTGTGTGCAAAGATAGTTTTAGATTTGGTTTAGAAGCTATCCTCCAGAACAGGCTCCCATACTTAGAATGTT TCTAGTTAAGGTAATAAATTAGGCAACCCAAGTGTGACTCCACTCAAGTGTCCTTTTCTGTAGGCAGGAAGGGCC CACAACATGGCTTAAAATGTAGTCCATGGTTCTGGCCCACAGTACAGTGTGTATCTATACCAGGTCACCTGTGTT CAATCTGGGAGCCTTCCTGGCCAGTCTGAGTGGCAGCCAGAAGGGAGCTCATAGTGTCTAGGAGTCTCAGGCAAG TGACCTGAAAAGCTGATCTCAACAGGGATTCACACAGAATTAGGCTGTTTTTTGCATTAGCTGGTAGGTGACTT TCTCAAAATTCTTAAATTCAGAAAGTATTTAGTAAACTTGAGGAAGGTATGAAATCTGGAGGAGGCATCCAGGAC CCAGGGGTTTGATAGCTTTACAGGTAGGATCATACCACACCAAAAGAGCAGTGGACAATAAGACTATATGAGCTA TATGAAGCTTTTAGGAATCATTTAGGACAGACAGAGCCCTAAACAACCCATTCATGACTTAAGTTGTTGGCTCAG TGTATGCTGGGGACAAAGAAAAACTAACAAGCCGACCTGCCTTTATGATAAATTCTAGTGTGCTTACAAGGGATG ACTTCCTGAGGTGTGATCTGTCCACCTTGAAGAACTCCACAACTGAAGAAGGGGGAGCTGTGAGAACGTGGATTGT TCTACAACTTGCACAGGGTAACAGAGGAAGTGGCTGAGGCCTAGAGTCACGTTTTCCAGTTCCCTTCGCAAACTA TATTTCTTGGAACGCGAAAGGAAGCTTTACCTATTTCATAGAAGACCTGGAATCCATAACCTCAGAAGGCAATAT TATTGATAGAAAATGTGGAAGGATCAGGAAGTTCTTAGATTCTTGGATGACAGATGCATGTTGATGCCCTATGGA GATGTCCTTGTGTTTTGAGGTCACTGAGGTAGGAAGACCTGTCTACTCTTGGTTTCACCACTAGAACAGTCTTGG GCTGGATGGGTTATAGAGCTGAGCGGCTGTGATGGTTCTGTTTTTACATTAACAAAAACAATTAAAAAACACCAAA AAC

CTGTCGGCCATCTGTGAGTACCAGTTGGAAGAGATCCAGCGGGTGTTTGAGGGCCCCTATAAGGAGTACCATGAG GAAGCCCAGAAGTGGGACCGCTACACTGACCCTGTACCCAGCCCTCGGCCTGGCTCGTGCATTAACAACTGGCAT CGGCGCCACGGCTACACCAGCTCCCTGGAGCTACCCGACAACATCCTCAACTTCGTCAAGAAGCACCCGCTGATG GCTGTGAGCCTGGGGCCCTGGGTTCACCTGATTGAGGAGCTGCAGCTGTTTGACCAGGAGCCCATGAGAAGCCTG GTGCTATCTCAGAGCAAGAAGCTGCTCTTTGCCGGCTCCCGCTCTCAGCTGGTGCAGCTGCCCGTGGCCGACTGC ATGAAGTATCGCTCCTGTGCAGACTGTGTCCTCGCCCGGGACCCCTATTGCGCCTGGAGCGTCAACACCAGCCGC TGTGTGGCCGTGGGTGGCCACTCTGGATCTCTACTGATCCAGCATGTGATGACCTCGGACACTTCAGGCATCTGC AACCTCCGTGGCAGTAAGAAAGTCAGGCCCACTCCCAAAAACATCACGGTGGTGGCGGGCACAGACCTGGTGCTG GGGTCCTTCCTCTACGATGCCCGGCTCCAGGCCCTGGTTGTGATGGCTGCCCAGCCCCGCCATGCCGGGGCCTAC CACTGCTTTTCAGAGGAGCAGGGGGGGGCGGCTGGCTGAAGGCTACCTTGTGGCTGTCGTGGCAGGCCCGTCG GTGACCTTGGAGGCCCGGGCCCCCTGGAAAACCTGGGGCTGGTGGTGGCTGGTGGTGGCCCTGGGGGCCTGTG TGCCTGGTGCTGCTGCTGGTGCTGTCATTGCGCCGGCGGCTGCGGGAAGAGCTGGAGAAAGGGGCCAAGGCT ACTGAGAGGACCTTGGTGTACCCCCTGGAGCTGCCCAAGGAGCCCACCAGTCCCCCCTTCCGGCCCTGTCCTGAA CCAGATGAGAAACTTTGGGATCCTGTCGGTTACTACTATTCAGATGGCTCCCTTAAGATAGTACCTGGGCATGCC CGGTGCCAGCCCGGTGGGGGGCCCCCTTCGCCACCTCCAGGCATCCCAGGCCAGCCTCTGCCTTCTCCAACTCGG CTTCACCTGGGGGGTGGGCGGAACTCAAATGCCAATGGTTACGTGCGCTTACAACTAGGAGGGGAGGACCGGGGA ${ t TCCAACCCCGAGGAGTCATCAGTA}{ t TGA}{ t GGGGGAACCCCCACCGCGTCGGCGGGAAGCGTGGGAGGTGTAGCTCCTA$ CCCACCCGGCCATGAGGACCTGCTCTGCTCAGCACGGGCACTGCCACTTGGTGTGTGCTCACCAGGGCACCAGCCT CGCAGAAGGCATCTTCCTCCTCTCTGTGAATCACAGACACGCGGGACCCCAGCCGCCAAAACTTTTCAAGGCAGA GCGCTTGTGGCATAGCCTTCCTGTTTCTGTCAAGTCTTCCCTTGGCCTGGGTCCTCCTGGTGAGTCATTGGAGCT ATGAAGGGGAAGGGGTCGTATCACTTTGTCTCTCCTACCCCCACTGCCCCGAGTGTCGGGCAGCGATGTACATAT GGAGGTGGGGTGGACAGGGTGCTGTGCCCCTTCAGAGGGAGTGCAGGGCTTGGGGTGGGCCTAGTCCTGCTCCTA CTCCCACTTGGCCCCGGGGTTCAGTGGTATTTTATACTTGCCTTCTTCCTGTACAGGGCTGGGAAAGGCTGTGTG AGGGGAGAGAGGGGAGAGGGGGGCCTGCTGTGGACAATGGCATACTCTCTCCAGCCCTAGGAGGAGGGCTCCT AACAGTGTAACTTATTGTGTCCCCGCGTATTTATTTGTTGTAAATATTTGAGTATTTTTATATTTGACAATAAAAT GGAGAAATGAAAAAAAAAAAAAAAAAAAA

MYLSAICEYQLEEIQRVFEGPYKEYHEEAQKWDRYTDPVPSPRPGSCINNWHRRHGYTSSLELPDNILNFVKKHP LMEEQVGPRWSRPLLVKKGTNFTHLVADRVTGLDGATYTVLFIDTGDGWLLKAVSLGPWVHLIEELQLFDQEPMR SLVLSQSKKLLFAGSRSQLVQLPVADCMKYRSCADCVLARDPYCAWSVNTSRCVAVGGHSGSLLIQHVMTSDTSG ICNLRGSKKVRPTPKNITVVAGTDLVLPCHLSSNLAHARWTFGGRDLPAEQPGSFLYDARLQALVVMAAQPRHAG AYHCFSEEQGARLAAEGYLVAVVAGPSVTLEARAPLENLGLVWLAVVALGAVCLVLLLLVLSLRRRLREELEKGA KATERTLVYPLELPKEPTSPPFRPCPEPDEKLWDPVGYYYSDGSLKIVPGHARCQPGGGPPSPPPGIPGQPLPSP TRLHLGGGRNSNANGYVRLQLGGEDRGGLGHPLPELADELRRKLQQRQPLPDSNPEESSV

 ${\tt MASRLLRGAGTLAAQALRARGPSGAAAMRSMASGGGVPTDEEQATGLEREIMLAAKKGLDPYNVLAPKGASGTREDPNLVPSISNKRIVGCICEEDNTSVVWFWLHKGEAQRCPRCGAHYKLVPQQLAH}$

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891/6881 FIGURE 829

TTGCAGCCGCCGGCAGCTACTGCAAGGCAAAAGCCGGAGTGGACGTGTCTTTTGAAACTGCTGCTCTTTCACTTC TCAGGCGTCACCGAGAGCTCAGCACCCAGGCTGAACTCTGTACCATTTGGAAGAAAAAAAGCTGATGCATCTGTT GACATGTTTTCCAAAGTCCTGGAGCATCAGCTGCTTCAGACTACCAAACTGGTGGAAGAACATTTGGATTCTGAA ATTCAAAAACTGGATCAGATGGATGAGGATGAATTGGAACGCCTTAAAGAAAAGAGACTCCAGGCACTAAGGAAA GCTCAACAGCAGAAACAAGAATGGCTTTCTAAAGGACATGGGGAATACAGAGAAATCCCTAGTGAAAGAGACTTT TTTCAAGAAGTCAAGGAGAGTGAAAATGTGGTTTGCCATTTCTACAGAGACTCCACATTCAGGTGTAAAATACTA GACAGACATCTGGCAATATTGTCCAAGAAACACCTCGAGACCAAATTTTTGAAGCTGAATGTGGAAAAAGCACCT TTCCTTTGTGAGAGACTGCATATCAAAGTCATTCCCACACTAGCACTGCTAAAAGATGGGAAAACACAAGATTAT GTTGTTGGGTTTACTGACCTAGGAAATACAGATGACTTCACCACAGAAACTTTAGAATGGAGGCTCGGTTCTTCT GACATTCTTAATTACAGTGGAAATTTAATGGAGCCACCATTTCAGAACCAAAAGAAATTTGGAACAAACTTCACA AAGCTGGAAAAGAAAACTATCCGAGGAAAGAAATATGATTCAGACTCTGATGATGAT<u>TAG</u>AGCTCAATAATTCTT TGTAAATTGTCTTTTTTTTCTGCTTCAGATTTAAATGTGTTTTTAAAATTCTATTAATGTCTATACATTGGTCA CCTAAATACTCATATTCTCGAGTTTTATACAGTTGTATCACATCGAAAAGTGTCTTTACTGTTTTCTGTGTGGCC ATCATGTTTAAGTTGAGGAAAACTCAGTTCTTAAATTATCTGGGAAGGGTCTGGATTCTCTATTTTTGAGATTGA CTTTATCACAATATGATTCTTACATCTTTATACCATTTACAATTGTGTTTTAGATCTACAGAGTTAGAAATTCGA AAACTATTCCAGGACTAATTCTTAATCGGCATTATTTATACAAGAGGTCAAGTAACATTTACTAGCGCAATACTG ACACTGCATGTTGATGTTGAATCAACTGATGCCAGCAGAAAGCTATTTTGATTTGTGAACATACTGCCTTATTTA AAGGGTCCTGATTGCTTGTATTTTAAGACATTCATTAAAAAGAAACCAGGAAACACTTTTGAAATAACAGCATAA

 ${\tt MEADASVDMFSKVLEHQLLQTTKLVEEHLDSEIQKLDQMDEDELERLKEKRLQALRKAQQQKQEWLSKGHGEYREIPSERDFFQEVKESENVVCHFYRDSTFRCKILDRHLAILSKKHLETKFLKLNVEKAPFLCERLHIKVIPTLALLKDGKTQDYVVGFTDLGNTDDFTTETLEWRLGSSDILNYSGNLMEPPFQNQKKFGTNFTKLEKKTIRGKKYDSDSDDDD$

893/6881 FIGURE 831A

CGCGGGTCTGTGGAGAGCCGGGTGCGAGCGGCGCAGCACGAGGGGAAAAGAGCTGAGCGGAGACCAAAGTCAGC CGGGAGACAGTGGGTCTGTGAGAGACCGAATAGAGGGGCCTGGGGCCACGAGCGCCATTGACAAGCAATGGGGAAG AAACAGAAAACAAGAGCGAAGACAGCACCAAGGATGACATTGATCTTGATGCCTTGGCTGCAGAAATAGAAGGA GATGAAGATGATATCCTGAAAGAACTGGAAGAATTGTCTTTGGAAGCTCAAGGCATCAAAGCTGACAGAGAAACT CCGAAAGTGGAAATGTACTCTGGGAGTGATGATGATGATGATTTTTAACAAACTTCCTAAAAAAAGCTAAAGGGAAA GCTCAAAAATCAAATAAGAAGTGGGATGGGTCAGAGGAGGATGAGGATAACAGTAAAAAAATTAAAGAGCGTTCA CAGAAAAACAAGCCAGGTCCTAACATAGAAAGTGGGAATGAAGATGATGACGCCTCCTTCAAAAATTAAGACAGTG AAAGAAAAGAAGAGTTAGAAACAGGTAAAAAGGATCAGAGTAAACAAAAGGAATCTCAAAGGAAATTTGAAGAA GAAACTGTAAAATCCAAAGTGACTGTTGATACTGGAGTAATTCCTGCCTCTGAAGAGAAAGCAGAGACTCCCACA GAGAAAGAGAAAAAAAGGACCTAGCAAAGCCACTGTTAAAGCTATGCAAGAAGCTCTGGCTAAGCTTAAAGAG GAAGAAGAAGACAGAAGAGAGAAGAAGAACGTATAAAACGGCTTGAAGAATTAGAAGCCAAGCGTAAAGAA GAAGGGAAACTTTTAACTAAATCCCAGAGAGAAGCCAGAGCCAGAGCCGAAGCTACTCTTAAACTGCTACAAGCT CAGGGTGTTGAAGTGCCATCAAAAGACTCTTTGCCAAAGAAGAGGCCAATTTATGAAGATAAAAAAGAGGAAAAAAA ATACCACAGCAGCTAGAAAGTAAAGAAGTGTCTGAATCAATGGAATTATGTGCTGCTGTAGAAGTTATGGAACAA GGAGTACCAGAAAAGGAAGAGACACCACCTCCTGTTGAACCAGAAGAAGAAGAAGATACTGAGGATGCTGGATTG GATGATTGGGAAGCTATGGCCAGTGATGAGGAGACAGAAAAAGTAGAAGGAAACAAAGTTCATATAGAAGTAAAA GAGGGAGAAAGTGAAGGCAGTGAAGGTGATGAGGAAGATGAAAAGGTGTCAGATGAGAAGGATTCAGGGAAGACA TTAGATAAAAAGCCAAGTAAAGAAATGAGCTCAGATTCTGAATATGACTCTGATGATGATCGGACTAAAGAAGAA AGGGCTTATGACAAAGCAAAACGGAGGATTGAGAAACGGCGACTTGAACATAGTAAAAATGTAAACACCGAAAAG CTAAGAGCCCCTATTATCTGCGTACTTGGGCATGTGGACACAGGGAAGACAAAAATTCTAGATAAGCTCCGTCAC ACACATGTACAAGATGGTGAAGCAGGTGGTATCACACAACAAATTGGGGCCACCAATGTTCCTCTTGAAGCTATT **AATGAACAGACTAAGATGATTAAAAATTTTGATAGAGAGATTGTACGGATTCCAGGAATGCTAATTATTGATACT** CCTGGGCATGAATCTTCAGTAATCTGAGAAATAGAGGAAGCTCTCTTTGTGACATTGCCATTTTAGTTGTTGAT ATTATGCATGGTTTGGAGCCCCAGACAATTGAGTCTATCAACCTTCTCAAATCTAAAAAATGTCCCTTCATTGTT GCACTCAATAAGATTGATAGGTTATATGATTGGAAAAAGAGTCCTGACTCTGATGTGGCTGCTACTTTAAAGAAG CAGAAAAAGAATACAAAAGATTGAATTTGAGGAGCGAGCAAAGGCTATTATTGTAGAATTTGCACAGCAGGGTTTG GATGGCATGGGAAGTCTGATCTACCTTCTTGTAGAGTTAACTCAGACCATGTTGAGCAAGAGACTTGCACACTGT GAAGAGCTGAGAGCACAGGTGATGGAGGTTAAAGCTCTCCCGGGGATGGGCACCACTATAGATGTCATCTTGATC AATGGGCGTTTGAAGGAAGGAGATACAATCATTGTTCCTGGAGTAGAAGGGCCCATTGTAACTCAGATTCGAGGC CTCCTGTTACCTCCTATGAAGGAATTACGAGTGAAGAACCAGTATGAAAAGCATAAAGAAGTAGAAGCAGCT CAGGGGGTAAAGATTCTTGGAAAAGACCTGGAGAAAACATTGGCTGGTTTACCCCTCCTTGTGGCTTATAAAGAA GATGAAATCCCTGTTCTTAAAGATGAATTGATCCATGAGTTAAAGCAGACACTAAATGCTATCAAATTAGAAGAA AAAGGAGTCTATGTCCAGGCATCTACACTGGGTTCTTTGGAAGCTCTACTGGAATTTCTGAAAACATCAGAAGTG CCCTATGCAGGAATTAACATTGGCCCAGTGCATAAAAAAGATGTTATGAAGGCTTCAGTGATGTTGGAACATGAC CCTCAGTATGCAGTAATTTTGGCCTTCGATGTGAGAATTGAACGAGATGCACAAGAAATGGCTGATAGTTTAGGA GTTAGAATTTTTAGTGCAGAAATTATTTATCATTTATTTGATGCCTTTACAAAATATAGACAAGACTACAAGAAA TCTCGAGATCCGATAGTGATGGGGGTGACGGTGGAAGCAGGTCAGGTGAAACAGGGGACACCCATGTGTGTCCCA AGCAAAAATTTTGTTGACATCGGAATAGTAACAAGTATTGAAATAAACCATAAACAAGTGGATGTTGCAAAAAAA

894/6881 FIGURE 831B

GGACAAGAAGTTTGTGTAAAAATAGAACCTATCCCTGGTGAGTCACCCAAAATGTTTGGAAGACATTTTGAAGCT
ACAGATATTCTTGTTAGTAAGATCAGCCGGCAGTCCATTGATGCACTCAAAGACTGGTTCAGAGATGAAATGCAG
AAGAGTGACTGGCAGCTTATTGTGGAGCTGAAGAAAGTATTTGAAATCATCTAATTTTTTCACATGGAGCAGGAA
CTGGAGTAAATGCAATACTGTGTTGTAATATCCCAACAAAAATCAGACAAAAAATGGAACAGACGTATTTGGACA
CTGATGGACTTAAGTATGGAAGGAAGAAAAATAGGTGTATAAAATGTTTTCCATGAGAAACCAAGAAACTTACAC
TGGTTTGACAGTGGTCAGTTACATGTCCCCACAGTTCCAATGTGCCTGTTCACTCCCCTTCCCCAACCC
TTCTCTCACTTGGCTGCTGTTTTAAAGTTTGCCCTTCCCCAAATTTGGATTTTATTACAGATCTAAAGCTCTTTC
GATTTTATACTGATTAAATCAGTACTGCAGTATTTGATTAACC

CTTCCTTTCCAACTTGGACGCTGCAGA<u>ATG</u>GCTCCCGCAAAGAAGGGTGGCGAGAAGAAAAAGGGCCGTTCTGCC
ATCAACGAAGTGGTAACCCGAGAATACACCATCAACATTCACAAGCGCATCCATGGAGTGGGCTTCAAGAAGCGT
GCACCTCGGGCACTCAAAGAGATTCGGAAATTTGCCATGAAGGAGATGGGAACTCCAGATGTGCGCATTGACACC
AGGCTCAACAAAGCTGTCTGGGCCAAAGGAATAAGGAATGTGCCATACCGAATCCGTGTGCGGCTGTCCAGAAAA
CGTAATGAGGATGAAGATTCACCAAATAAGCTATATACTTTGGTTACCTATGTACCTGTTACCACTTTCAAAAAT
CTACAGACAGTCAATGTGGATGAGAAC<u>TAA</u>TCGCTGATCGTCAGATCAAATAAAGTTATAAAATTGC

 ${\tt MAPAKKGGEKKKGRSAINEVVTREYTINIHKRIHGVGFKKRAPRALKEIRKFAMKEMGTPDVRIDTRLNKAVWAKGIRNVPYRIRVRLSRKRNEDEDSPNKLYTLVTYVPVTTFKNLQTVNVDEN$

ATCCCCGGCGGAGGGGCGAGCGCGTCTGGCCGGCTTCTCACCGCCGCGAGCAAAGAGGGTCCCGGGAAGCG GCAGGGTCGGCGTCCAGGAGCGGCTTCGGGGGCTCCGGCGGCGCAGAGGCGAGCAAGCGGCCCCGGGTCCGGG AGCGGAGGCCCTGGGGGCCCCGCGGGCAGGATGAGCTTGACCCCGAAGGAGCTCTCGAGCCTGCTGAGCATCATA TCGGAGGAGGCGGCGGCAGCACCTTCGAGGGCCTGTCCACCGCCTTCCACCACTACTTCAGCAAGGCCGAC ACGGCGCTCTACCTGCTCTGGGAGATGTACCGCACCGAGCCGCCGGCCAACCCCTTCGCCGCCAGCTTCGCG CACCTGCTCAACCCCGCGCCGCCGCCGCGGCGGCCAGGAACCCGACCGCCCTCCGCTCTCAGGATTTTTACCT CCTATAACTCCACCAGAAAAGTTTTTTCTTTCCCAGCTGATGCTGGCACCCCCACGGGAACTCTTCAAAAAGACG CCTCGCCAGATTGCACTGATGGACGTTGGAAACATGGGCCAGTCTGTGGACATTAGTGGGCTTCAGTTAGCCTTG GCCGAACGCCAATCTGAATTGCCAACGCAAAGCAAAGCGAGCTTCCCCAGTATTCTCAGTGACCCAGACCCGGAT TCTTCTAATTCTGGATTTGACAGCTCAGTTGCCTCTCAGATCACAGAAGCTTTAGTCAGCGGACCAAAGCCACCT CTAAACCCCACGGAGCCTGACCACGCGATCCAGTGGGATAAATCGATGTGTGTTAAGAATAGCACTGGTGTGGAG TTAGTCGCTATAGAAATGTTGCTGAAATTAATGCAGTCAAGCCAGATCACTGAGTATTTCTCTGTCCTGGTCAAT CACCTTTATATATCAAATTGCATCTCTACTTGTGAACAGATTAAGGATAAATATATGCAGAATCGGTTGGTGCGT CTTGTGTGTGTGTTTCTCCAATCCTTGATCCGTAACAAAATTATTAATGTACAGGATTTGTTTATAGAAGTGCAG · GCATTCTGTATTGAATTCAGTAGGATACGAGAAGCTGCTGGTCTTTTCCGGTTGTTGAAGACATTGGATACTGGG GAAACACCTTCTGAGACCAAAATGTCAAAATAA

MPGGGASAASGRLLTAAEQRGSREAAGSASRSGFGGSGGGGGGGASGPGSGSGGPGGPAGRMSLTPKELSSLLSII SEEAGGGSTFEGLSTAFHHYFSKADHFRLGSVLVMLLQQPDLLPSAAQRLTALYLLWEMYRTEPLAANPFAASFA HLLNPAPPARGGQEPDRPPLSGFLPPITPPEKFFLSQLMLAPPRELFKKTPRQIALMDVGNMGQSVDISGLQLAL AERQSELPTQSKASFPSILSDPDPDSSNSGFDSSVASQITEALVSGPKPPIESHFRPEFIRPPPPLHICEDELAW LNPTEPDHAIQWDKSMCVKNSTGVEIKRIMAKAFKSPLSSPQQTQLLGELEKDPKLVYHIGLTPAKLPDLVENNPLVAIEMLLKLMQSSQITEYFSVLVNMDMSLHSMEVVNRLTTAVDLPPEFIHLYISNCISTCEQIKDKYMQNRLVR

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MTERFDCHHCNESLFGKKYILREESPYCVVCFETLFANTCEECGKPIGCDCKDLSYKDRHWHEACFHCSQCRNSL VDKPFAAKEDQLLCTDCYSNEYSSKCQECKKTIMPGTRKMEYKGSSWHETCFICHRCQQPIGTKSFIPKDNQNFC VPCYEKQHAMQCVQCKKPITTGGVTYREQPWHKECFVCTACRKQLSGQRFTARDDFAYCLNCFCDLYAKKCAGCT NPISGLGGTKYISFEERQWHNDCFNCKKCSLSLVGRGFLTERDDILCPDCGKDI

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MTEEVIVIAKWDYTAQQDQELDIKKNERLWLLDDSKTWWRVRNAANRTGYVPSNYVERKNSLKKGSLVKNLKDTL GLGKTRKTSARDASPTPSTDAEYPANGSGADRIYDLNIPAFVKFAYVAEREDELSLVKGSRVTVMEKCSDGWWR GSYNGQIGWFPSNYVLEEVDEAAAESPSFLSLRKGASLSNGQGSRVLHVVQTLYPFSSVTEEELNFEKGETMEVI EKPENDPEWWKCKNARGQVGLVPKNYVVVLSDGPALHPAHAPQISYTGPSSSGRFAGREWYYGNVTRHQAECALN ERGVEGDFLIRDSESSPSDFSVSLKASGKNKHFKVQLVDNVYCIGQRRFHTMDELVEHYKKAPIFTSEHGEKLYL VRALQ

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GCTCCAGTCAACGTTACAACAGAAGTAAAATCTGTCGAAATGCACCATGAAGCTTTGAGTGAAGCTCTTCCTGGG
GACAATGTGG

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 ${\tt AACAGATCTTC} \underline{{\tt ATG}} {\tt AATGTCGCTATCTTTGAGGATGAAGTTTTTGCTGGAGTTACCACACCACGGAACTCTTTC}$ CACACAGCCTGCTGAGTGTGATTGCCAACTTCATCCCTTTCTCTGATCTCAACCAGAGTCCACGGAACATGTACC AATGCCAGATGGGTAAGCAAACTATGGGCTTTCCACTTCTCACTTATCAAGACCGATCGGATAACAAACTGTATC GTCTTCAGACTCCTCAGAGTCCCTTGGTGAGACCCTCCATGTATGATTATTATGACATGGATAACTATCCAATTG GGACCAATGCCATCGTTGCTGTGATTTCTTACACTGGCTATGATATGGAAGATGCCATGATTGTGAATAAGGCCT $\tt CTTGGGAACGAGGCTTTGCCCATGGAAGTGTCTACAAGTCTGAGTTCATAGACCTCTCTGAAAAAATTAAACAAG$ GAGATAGTAGCCTGGTGTTTGGCATCAAACCTGGTGACCCACGCGTTCTGCAGAAGTTAGATGACGATGGATTGC CGTTTATAGGAGCAAAACTGCAGTACGGAGATCCGTATTACAGCTACCTCAACCTCAACACCGGGGAAAGTTTTG TGATGTACTATAAGAGTAAAGAAATTGTGTTGTGGATAACATCAAAGTGTGCAGTAATGACACTGGGAGTGGAA AATTCAAGTGTGTTTGCATCACTATGAGAGTGCCTCGGAACCCAACTATCGGAGATAAATTTGCCAGTCGCCATG GGCAGAAGGGCATTTTAAGCAGATTGTGGCCGGCTGAGGACATGCCTTTTACTGAGAGTGGGATGGTCCCAGACA TTCTGTTCAATCCCCATGGTTTTCCATCCCGCATGACCATTGGGATGTTAATTGAGAGTATGGCCGGGAAGTCTG CAGCTTTGCATGGTCTCTGCCATGATGCTACACCCTTCATCTTCTCAGAGGAGAACTCGGCCTTAGAATACTTTG GTGAGATGTTAAAGGCTGCTGGCTACAATTTCTATGGCACCGAGAGGTTATATAGTGGCATCAGTGGGCTAGAAC TGGAAGCAGACATCTTCATAGGAGTGGTTTATTATCAGCGCTTACGCCATATGGTCTCAGACAAATTTCAAGTAA GGACAACTGGAGCCCGAGACAGAGTCACCAACCAGCCTATTGGGGGAAGAAATGTCCAGGGTGGAATCCGTTTTG GGGAGATGGAACGGGATGCGCTTTTAGCTCATGGTACATCTTTTCTCCTTCATGACCGCCTCTTCAACTGCTCAG ATCGGTCGGTAGCCCATGTGTGAAGTGTGGCAGTTTACTCTCTCCACTGTTGGAGAAGCCACCCCCTTCTTGG ${\tt TCTGCCATGCGCAACAGAAAATACAACTGTACTCTGTG} \underline{{\tt TAG}} {\tt TCGCAGTGACACTATCGATACTGTTTCTGTGCCT}$ TATGTTTTTCGGTATTTTGTAGCTGAACTGGCAGCTATGAACATCAAAGTGAAACTGGATGTTGTTTAACTTGAT GTTGACCTTTTGGATTAAGGGGACTATCAGATTAAAGCAAAATGTAATTTTAATTCAATGAAGATATCATTACCA GGTTACTCTTGAGATTTTTCAACGGTGTTAGAACTCTCAACCAAGACCTGAAAACCAAGTATGCAAGGTTTCTGA ATCTCTCTGGTAGATTAACTATTGACAATGATTTTCTGTTATCTTTGTTCAAAAAGTTCATGTCTTCTCAAAAATA TGAAATATTGATAAATGGAAGAGCATACGGTGACAAGTCTCCTTTCCAACCCCAGGTTCCCTACACCCTGCTCTC AGCAGGCAGTGAGTGTCACACCTGTTAATCCATCTTGAGCAGGACAGTACTATACAAATAGAATGCAAGCTGT GAAGTACAGTTGTTACATATTTAATGAATACAATTTGATGGGTCTGACTATATGCACACCCTTTGATACCATCA CCACAATCAGGGTAATAAACATACCTGTCATCTCCACAAGTTTCCTCCTGCCCCTTTGTTTTTTGCTTTTTGGTT GCTGTTGAGTTTTTGTTTTGTCTTCTGTGGTAAGAACACTTAACTCAAGACCTACCCTCTTAACAAATCTTTAAG TGCACGATATAGTATTGTTAATTCCAGGCACCATGTTGTACAACAGATCTTTAGACCTTACTTGTCTTGCATAAC TGAAGCTTTATACCTGTTGAACAACTCTCCATTTCCCTGGCCCCTAGCAACCACCCTTCTACCCTGTTTCTATGA GTTTGACTATTACAGATATCTCATATAGTGGGATCATGCAATATTTGTCCTGTGACTGGCTTATTTCACTTAGCA TAGTGAAATAAGATTCATCCATTTTGGAAGCCAGGCATGGTGCTGTGCATCTATAGTCCCTGCTATTTGAGAGGC TGAGGTGGGAGGATCATTTGAGTGCAGGAGTTCAAGGACAGCCTGGGTAATATAGGAAGACCCTGTCTTGAAGAC CCTGACCTCAAGTGATCCACCCACCTCGGCCTCCGAAAGTGCTAGGATTACAGGTGTGAGCCACTGTGCCTGGCC TCCGGTGAGTATTTTATATTTAGTCTACACTTCCATACTTGGCTTTTTTCTGCTTTTATGTTGATCTGCTTTCAT AGCAGTGTGTAGAGTGCCACTTATGTTTTCTTTGTGTACAGTATTTTATTGTATGGATTTACCATCCCCTGT GTATTTAAGTTGTTCCATTCTTTGGCCATTATAACTTTTTCTGCAAATATTCTGGTGACTTATCTTTGGCCATT ATAAACTGTTGATAATAAAAAAAAAAAAAAAAAAAA

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MATLITSTTAATAASGPLVDYLWMLILGFIIAFVLAFSVGANDVANSFGTAVGSGVVTLKQACILASIFETVGSV LLGAKVSETIRKGLIDVEMYNSTQGLLMAGSVSAMFGSAVWQLVASFLKLPISGTHCIVGATIGFSLVAKGQEGV KWSELIKIVMSWFVSPLLSGIMSGILFFLVRAFILHKADPVPNGLRALPVFYACTVGINLFSIMYTGAPLLGFDK LPLWGTILISVGCAVFCALIVWFFVCPRMKRKIEREIKCSPSESPLMEKKNSLKEDHEETKLSVGDIENKHPVSE VGPATVPLQAVVEERTVSFKLGDLEEAPERERLPSVDLKEETSIDSTVNGAVQLPNGNLVQFSQAVSNQINSSGH YQYHTVHKDSGLYKELLHKLHLAKVGDCMGDSGDKPLRRNNSYTSYTMAICGMPLDSFRAKEGEQKGEEMEKLTW PNADSKKRIRMDSYTSYCNAVSDLHSASEIDMSVKAEMGLGDRKGSNGSLEEWYDQDKPEVSLLFQFLQILTACF GSFAHGGNDVSNAIGPLVALYLVYDTGDVSSKVATPIWLLLYGGVGICVGLWVWGRRVIQTMGKDLTPITPSSGF SIELASALTVVIASNIGLPISTTHCKVGSVVSVGWLRSKKAVDWRLFRNIFMAWFVTVPISGVISAAIMAIFRYVILRM

ACCAACCTCTTCGAGGCACAAGGCACAACAGGCTGCTCTGGGATTCTCTTCAGCCAATCTTCATTGCTCAAGTGT $\tt CTGAAGCAGCC{\color{red} \underline{ATG}} GCAGAAGTACCTGAGCTCGCCAGTGAAATGATGGCTTATTACAGTGGCAATGAGGATGACT$ TGTTCTTTGAAGCTGATGGCCCTAAACAGATGAAGTGCTCCTTCCAGGACCTGGACCTCTGCCCTCTGGATGGCG ACAAGCTGAGGAAGATGCTGGTTCCCTGCCCACAGACCTTCCAGGAGAATGACCTGAGCACCTTCTTTCCCTTCA TCTTTGAAGAAGAACCTATCTTCTTCGACACATGGGATAACGAGGCTTATGTGCACGATGCACCTGTACGATCAC TGAACTGCACGCTCCGGGACTCACAGCAAAAAAGCTTGGTGATGTCTGGTCCATATGAACTGAAAGCTCTCCACC TCCAGGGACAGGATATGGAGCAACAAGTGGTGTTCTCCATGTCCTTTGTACAAGGAGAAGAAAGTAATGACAAAA TACCTGTGGCCTTGGGCCTCAAGGAAAGAATCTGTACCTGTCCTGCGTGTTGAAAGATGATAAGCCCACTCTAC AGCTGGAGAGTGTAGATCCCAAAAATTACCCAAAGAAGAAGATGGAAAAGCGATTTGTCTTCAACAAGATAGAAA TCAATAACAAGCTGGAATTTGAGTCTGCCCAGTTCCCCAACTGGTACATCAGCACCTCTCAAGCAGAAAACATGC $\texttt{CCGTCTTCCTGGGAGGGACCAAAGGCGGCCAGGATATAACTGACTTCACCATGCAATTTGTGTCTTCC} \underline{\textbf{TAA}} \texttt{AGAG}$ AGCTGTACCCAGAGAGTCCTGTGCTGAATGTGGACTCAATCCCTAGGGCTGGCAGAAAGGGAACAGAAAGGTTTT GGATCTCCTGTCCATCAGCCAGGACAGTCAGCTCTCTCCTTTCAGGGCCCAATCCCCAGCCCTTTTGTTGAGCCAG GCCTCTCTCACCTCTCACTCACTTAAAGCCCGCCTGACAGAAACCACGGCCACATTTGGTTCTAAGAAACCCT TTGGTCTAATTTATTCAAAGGGGGCAAGAAGTAGCAGTGTCTGTAAAAGAGCCTAGTTTTTAATAGCTATGGAAT ATTTAAATGGGAATATTTATAAATGAGCAAATATCATACTGTTCAATGGTTCTGAAATAAACTTCTCTGAAG

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GCGGCTGAAGGGGTTGCTGCAGTCTGGTCAGATCCCTGGCAGAAACGCAAATCGGGGCC

914/6881 FIGURE 851A

GATGGGCTGTGCAAAGGGCGCGGCTGCTGAGGACAGGGCTGTGGCTGGAGAACCTGCTGCTTCCTGAAGCCGAGC CCCACCCTAAAGGACCGAGAGCACAGGCCATGGGAGAGGAATCGAGTAGGGATGCAGAGCCTGGTGGCACTGTCC TGAGAGAGGAGGAGGCTGGGCAGGGCCCCGGCGCTGGAGAGGTGCCCTGCATATGGGACCTCTCAGAGGTGCACA AGAGCTGTGTGCCCAGGTACCCCTGTCTCCTCCTCCTCCAGCCCCAGCCTACTCTCCTAATGGTCTGTGTCT TTCAGGGATGAGATTTACTGCCAGATCTGCAAGCAGCTCTCGGAGAACTTCAAAACAAGCAGCCTGGCCCGGGGC TGGATCCTGCTCAGCCTCTGCCTCGGCTGCTTCCCACCCTCAGAGAGGTTCATGAAGTATCTACTGAACTTCATC GAGCCCCCACCTGGCTGGAGCTGCAGGCTGTCAAGTCCAAGAAGCACATCCCCATCCAAGTCATCTTGGCCACT GGCCTCAGCGACCACCTGGGCTTCTCCCTCCAGGTCGCCGTGTACGACAAGTTCTGGTCCCTGGGCAGCGGGCGC GACCACATGATGGATGCCATCGCCCGGTGTGAGCAGATGGCCCAGGAGAGGGGGGGAGAGCCAGCGCCAGTCACCC TGGCGCATCTACTTCCGGAAGGAATTCTTCACCCCCTGGCACGACTCCCGGGAGGACCCTGTCAGCACCGAGCTT ATTTACCGCCAAGTCCTCCGAGGAGTCTGGTCTGGCGAGTACAGCTTCGAGAAGGAGGAAGAGCTGGTTGAGCTG ATCCCCCACAGCTGTACAGGACCAAGCCCCCAGACAGGTGGGCGAGCCTCGTCACTGCCGCCTGCGCCAAGGCC $\tt CCATACACTCAGAAGCAAGTCACCACTGGCCG\underline{T}GCGAGAGCAGGTGGTGGACGCCGCCCGCCTGCAGTGGCCG$ $\tt CTGCTCTTCTCCCGGCTCTTCGAAGTCATCACACTCTCAGGCCCCCGCCTGCCCAAGACGCAGCTGATCTTGGCT$ GTTAACTGGAAGGGGCTTTGCTTCCTGGACCAGCAGGAGAAGATGCTGCTGGAACTCTCTTTCCCAGAGGTCATG GGTCTGGCCACCAACAGGGAGGCCCAGGGCGGCAGAGGCTGCTGCTCTCCACGATGCATGAGGAGTACGAGTTT GTGTCACCCAGCAGTGTGGCCATCGCTGAGCTGGTGGCCCTGTTCCTGGAGGGCCTGAAGGAGAGGTCCATTTTC GCCATGGCCCTGCAGGACAGGAAGGCCACAGATGACACCACCCTCCTGGCCTTCAAGAAGGGGGACCTGTTGGTC CTCACAAAGAAGCAGGGGCTGCTGGCCTCTGAGAACTGGACCCTCGGCCAGAACGACAGGACAGGCAAGACGGGG ATGTCACCAGAGAAGAGGAAGCTGGCGGCTCAGGAGGGGCAGTTCACAGAGCCACGTCCTGAGGAGCCACCCAAG GAAAAGCTGCACACCCTGGAGGAGTTCTCCTATGAGTTCTTCAGGGCTCCAGAGAAAGGACATGGTGAGCATGGCC GTGCTGCCCCTGGCCCGTGCCCGTGGCCACCTGTGGGCCCTATTCCTGCGAGCCGCTGCGACAGCCGCTGCTCAAG CGAGTCCACGCCAACGTCGACCTCTGGGACATCGCCTGCCAGATCTTTGTCGCCATCCTCCGGTACATGGGCGAC TACCCTTCTCGGCAGGCCTGGCCCACCCTGGAGCTCACCGACCAGATCTTCACACTGGCCCTGCAGCACCCGGCC CTCCAGGACGAGGTCTACTGCCAGATCCTGAAGCAGCTGACGCACAACTCCAACAGGCACAGCGAAGAGCGGGGGC TGGCAGCTGCTGTGGCTGTGCACGGGCCTCTTCCCGCCCAGCAAGGGGCTGCTGCCCCATGCCCAGAAGTTTATA GACACTCGGAGGGGAAGCTGCTGGCCCCCGACTGCAGCCGCCGAATCCAGAAGGTCCTGAGGACGGGGCCCCGG AAGCAGCCCCGCACCAGGTGGAGGTGGAGGCCGCAGAGCAGAACGTCTCCCGCATCTGCCACAAGATCTACTTC CCCAATGACACCAGTGAGATGCTGGAGGTGGTTGCCAACACACGGGTGCGGGATGTGTGACAGCATTGCCACC AGGCTGCAGCTGGCCTCCTGGGAGGGCTGCAGCCTCTTCATCAAGATTTCAGACAAGGTGGGCCGGGCTGGGGCT GGGCAGACGGTGGGCGGACGGCCAGTGAGCGAGGCCCTAGGTGCTGCCTGTGGGGGCCTCAGCCTACCAGGGGCA ACACGCCAATAGCCCACGCACAGCCGACTCCAGCGCAGCACCCAGGCCGTAGGCCGCCACTGGACCAGAACCCAG CAGGTTCTCAGGAGGACAGTCCCCGGAAGCCACCCAACTTCCCTGTACCTTCCCCTTCCCCAGGTCATCAGCCAG GGGGCCCCCGTGACGCTCCCCTACCAGGTGTACTTCATGCGGAAATTGTGGCTCAACATATCTCCAGGGAAGGAT GTGAATGCAGACACCATACTCCATTACCACCAGGAGCTGCCCAAGTACCTGCGCGGATTCCACAAGTGTTCGCGG GAGGATGCCATCCACCTGGCGGGCCTCATCTACAAGGCCCAGTTCAACAACGACCGGTCCCAGCTGGCTAGTGTC CCCAAGATCCTGAGGGAACTGGTGCCTGAGAACCTCACACGCCTGATGTCCTCGGAGGAGTGGAAAAAAGGCCATC CTTCTAGCCTATGACAAGCATAAGGACAAGACAGTGGAGGAGGCCAAGGTGGCCTTCCTGAAGTGGATCTGCCGG TGGCCCACCTTCGGATCCGCCTTCTTCGAGGTGAAGCAAACCTCGGAGCCTTCCTACCCGGACGTCATCCTCATC GCCATCAACCGACATGGGGTTCTGCTCATCCACCCCAAGACCAAGGACCTGCTCACCACCTATCCCTTCACCAAG ATCTCCAGCTGGAGCAGCGGCAGCACCTACTTCCACATGGCGCTGGGGAGCCTGGGCCGTGGCAGCCGCCTGCTG TGCGAGACCTCCCTGGGCTATAAGATGGATGACCTGCTGACCTCATATGTGCAGCAGCTCCTGAGTGCCATGAAC

915/6881 FIGURE 851B

MKYLLNFIGQGPATYGPFCAERLRRTYANGVRAEPPTWLELQAVKSKKHIPIQVILATGESLTVPVDSASTSREM CMHIAHKQGLSDHLGFSLQVAVYDKFWSLGSGRDHMMDAIARCEQMAQERGESQRQSPWRIYFRKEFFTPWHDSR EDPVSTELIYRQVLRGVWSGEYSFEKEEELVELLARHCYVQLGASAESKAVQELLPSCIPHKLYRTKPPDRWASL VTAACAKAPYTQKQVTPLAVREQVVDAARLQWPLLFSRLFEVITLSGPRLPKTQLILAVNWKGLCFLDQQEKMLL ELSFPEVMGLATNREAQGGQRLLLSTMHEEYEFVSPSSVAIAELVALFLEGLKERSIFAMALQDRKATDDTTLLA FKKGDLLVLTKKQGLLASENWTLGQNDRTGKTGLVPMACLYTIPTVTKPSAQLLSLLAMSPEKRKLAAQEGQFTE PRPEEPPKEKLHTLEEFSYEFFRAPEKDMVSMAVLPLARARGHLWAYSCEPLRQPLLKRVHANVDLWDIACQIFV AILRYMGDYPSRQAWPTLELTDQIFTLALQHPALQDEVYCQILKQLTHNSNRHSEERGWQLLWLCTGLFPPSKGL LPHAQKFIDTRRGKLLAPDCSRRIQKVLRTGPRKQPPHQVEVEAAEQNVSRICHKIYFPNDTSEMLEVVANTRVR DVCDSIATRLQLASWEGCSLFIKISDKVGRAGAGQTVGGRAVSEALGAACGGLSLPGAPMLDQAARPGLLGQR

AAGTGCATGACTCAGGACTGGGTGGGAGGGGGCTGTCCCTGAGGCCCTGGTCTCCCCCAGCCAAGTCCTGGCAGG GGGATGCTGTTCTTCAGGATCCCATGACCTGGGGCTCTTGGGGAGCCCCAGCCCGGAGAGTGACCTGTGGCTTTG CTGGGGAAAGGGGCTTGGAGGGTACAGGGCAGTGTCCAGGATTGCAGTCTCAAATCCGAGGCCCACAGGGGAGCT GCCTCTGTGATCGCCATTAAGGCTGTGGCCTGGGGTCTCAGGGCAGCCCAGGAACCAAAAATAGCCTGTAACTTG TCACTTTGTAAGTCCTGCCCTCCAGACACACTTCCCTTTCTTCTCCCCAAGCCTCTCTTCCCAGTTAGCTCCCCT GACTTGGAGTCACCTCTAAGCCTTGGCCCAGGCCCCTCTGCAGTGAGATGGAGGGACTCATCCCCCGGAGAGTGG CATCTGCAGGCCCACTGGCTGCCTGTGGTCACCCCCTAGGGTTCTAGCGGGGCTGCCTCCCATTTTCCTCAGAGC GGAGCAGCCCCAGCAGCAGCATTGAGGTGGAGCAATATGTCGGACGCCTTGGCCAACGCCGTGTGCCAGCGCTGC CAGGCCCGCTTCTCCCCCGCCGAGCGCATTGTCAACAGCAATGGGGAGCTGTACCATGAGCACTGCTTCGTGTGT GCCCAGTGCTTCCGGCCCTTCCCCGAGGGGCTCTTCTATGAGTTTGAAGGCCGGAAGTACTGCGAACACGACTTC CAAATGCTGTTTGCTCCGTGCTGTGGATCCTGCGGTGAGTTCATCATTGGCCGCGTCATCAAGGCCATGAACAAC GGCAGGCATCTCTGCCGGCCTTGCCACAACCGTGAGAAGGCCAAGGGCCTGGGCAAGTACATCTGCCAGCGGTGC CACCTGGTCATCGACGAGCAGCCCTCATGTTCAGGAGCGACGCCTACCACCCTGACCACTTCAACTGCACCCAC GGCGTCCCCATCTGCGGGGCCTGCCGCCCGCCCATCGAGGGCCGAGTGGTCAACGCGCTGGGCAAGCAGTGGCAC GTGGAGCACTTTGTCTGTGCCAAGTGTGAGAAGCCATTCCTGGGGCACCGGCACTATGAGAAGAAGGGCCTGGCC TACTGCGAGACTCACTACAACCAGCTCTTCGGGGACGTCTGCTACAACTGCAGCCATGTGATTGAAGGCGATGTG GTGTCGGCCCTCAACAAGGCCTGGTGTGTGAGCTGCTTCTCCTGCTCCACCTGCAACAGCAAGCTCACCCTGAAG AACAAGTTTGTGGAGTTCGACATGAAGCCCGTGTGTAAGAGGTGCTACGAGAAGTTCCCGCTGGAGCTGAAGAAG CGGCTGAAGAAGCTGTCGGAGCTGACCTCCCGCAAGCCCAAGGCCAAGGCCACAGACCTCAACTCTGCCTGAAGGC CCTCTTGCGCAGTGCCTCTCGGCCCTCCTCCTCCTCCTGCTGTCCATGCTTGGCCCCCTCGTCCCCATC CACCTGTGCCCTCCGCATCTTACCCTCCCTTTCTCTTTCCTCATTGCCTTCTCCCTTCCTGTTCCCTCATCTCTG TGACCCCACGTCTGACAGCCATGTCCACCTGTGCCCACAGCTTCCGCCCACAGACCTCCAGGGACAGGAGCAAAT TGCACCACAGCTCCCCGCCTGGCCTGGCCCTCCCCAGGCGGCTCAGTGGCTCATGCTGTCCTGTGAGAGCCCCTG CCCCAGAGCGGCCCCACTAAGCGCATGTGGCTCCTGGGCTACCCACAGCCAGGCCAGCCTGCTGGAGCCACAGGG CCTTGTGCCCACACTGAGCCAGCAAGTCCTGCTGTCCACACCCACAAGCTACCTGGAGGGACAGGACCCACCTCC TTGGGGCTTGTGTCGAGCCCTTGGGTGGGGCCAGGAGGAGGTGATGGCGTCAGAGGAGGTGTGGTCAGAGGTGAC GCACAATGAAGGCTTGTTCACAC

 ${\tt CCGACACCCACGGGCGGAGATCACCTGCTGCCCCGCAGACCCCTGTCCCTTCCTCCCGGACCAGCAGCTAGAGG\underline{A}}$ $\underline{\textbf{TG}} \texttt{TCCAAACGGAGTTGGTGGGCTGGATCCAGAAAGCCCCCAAGAGAGATGCTGAAACTCTCAGGCTCTGACTCCA}$ GCCAAAGCATGAATGGCCTTGAAGTGGCTCCCCCAGGTCTGATCACCAACTTCTCCCTGGCCACGGCAGAGCAAT GTGGCCAGGAGACGCCACTGGAGAACATGCTGTTCGCCTCCTTCTACCTTCTGGATTTTATCCTGGCTTTAGTTG GCAATACCCTGGCTCTGTGGCTTTTCATCCGAGACCACAAGTCCGGGACCCCGGCCAACGTGTTCCTGATGCATC TGGCCGTGGCCGACTTGTCGTGCGTGCTGGTCCTGCCCACCCGCCTGGTCTACCACTTCTCTGGGAACCACTGGC CATTTGGGGAAATCGCATGCCGTCTCACCGGCTTCCTCTTCTACCTCAACATGTACGCCAGCATCTACTTCCTCA CCTGCATCAGCGCCGACCGTTTCCTGGCCATTGTGCACCCGGTCAAGTCCCTCAAGCTCCGCAGGCCCCTCTACG CACACCTGGCCTGTGCCTTCCTGTGGGTGGTGGTGGCCATGGCCCCGCTGCTGGTGAGCCCACAGACCG TGCAGACCAACCACGGTGGTCTGCCTGCAGCTGTACCGGGAGAAGGCCTCCCACCATGCCCTGGTGTCCCTGG CAGTGGCCTTCACCTTCCCGTTCATCACCACGGTCACCTGCTACCTGCTGATCATCCGCAGCCTGCGGCAGGGCC TGCGTGTGGAGAAGCGCCTCAAGACCAAGGCAGTGCGCATGATCGCCATAGTGCTGGCCATCTTCCTGGTCTGCT TCGTGCCCTACCACGTCAACCGCTCCGTCTACGTGCTGCACTACCGCAGCCATGGGGCCTCCTGCGCCACCCAGC GCATCCTGGCCCTGGCAAACCGCATCACCTCCTGCCTCACCAGCCTCAACGGGGCACTCGACCCCATCATGTATT GCTTCGAAGGGAAAACCAACGAGAGCTCGCTGAGTGCCAAGTCAGAGCTG<u>TGA</u>GCGGGGGGGCGCCGTCCAGGCCG ACCTGAAATCTCAGCAGATGCCCACCATTTCTCTAGATCGCCTAGTCTCAACCCATAAAAAGGAAGAACTGACAA AGGGGATCCATCGGCCACCCCTCTGCAGGGGCTTGTGATGGCTACAATGGCTCCTAGACACTCAACGACTTCATC AAGAGGGACCTGGGAGTCCTGGTGGGGACGGGGAGGGAGTCTCAATACTCCTTTGCAGCGCAAGGTACTCTGAGT CCCCTCTGTAGTGCCTCTGCCAGACACACTGCCTGAGTTGAAGAGACACAGGCCACACATTTCAGGCTGGTTG CCAGCGGACGTCAGCACTCACGGCCTGCGGGGACTCAGCACAGCTCTGGATTCTGGATCTCTCCTGCTGTAACCC CACGCACAAGCCTGCAACCCCCAGAGCTCTTTGACAGGCTCCCAGGCCTCCCAGTCCTGGACAAGCATGTGCAGT CACGGGAGCTCAGCCCAGGGCTGGGCTGTGCACCTGCCTCCCACTGACCCAGACCCACTTCCTCCAGAGA GGCCTCTCTCCGCCTGAGCTATTTCCCTTGCTAGTGTGCAGATATTTCCCTAACATGTCCTTTTTTGTATTTGTT

MSKRSWWAGSRKPPREMLKLSGSDSSQSMNGLEVAPPGLITNFSLATAEQCGQETPLENMLFASFYLLDFILALV GNTLALWLFIRDHKSGTPANVFLMHLAVADLSCVLVLPTRLVYHFSGNHWPFGEIACRLTGFLFYLNMYASIYFL TCISADRFLAIVHPVKSLKLRRPLYAHLACAFLWVVVAVAMAPLLVSPQTVQTNHTVVCLQLYREKASHHALVSL AVAFTFPFITTVTCYLLIIRSLRQGLRVEKRLKTKAVRMIAIVLAIFLVCFVPYHVNRSVYVLHYRSHGASCATQ RILALANRITSCLTSLNGALDPIMYFFVAEKFRHALCNLLCGKRLKGPPPSFEGKTNESSLSAKSEL

920/6881 FIGURE 856A

GGGGAAGATGGCGGCTGCTCCTTTGGAGGAGCGGGATTGAGAGGATCGGGGTGGGGAGACCAAACAAGAGAGACA TTTCTGGCTCTGAAGGCGAACGCTTCGCTGGCCATTTAGGAGGTCTGCTCAAAGCCAGACGTATCCTAGAAGGAA AACATCACCATGGCTACAGAAATTGGTTCTCCTCCTCGTTTTTTCCATATGCCAAGGTTCCAGCACCAGGCACCT ATGAGAAAAGCTGTGAACCGAAAAACCATAGACTACAATCCATCTGTAATTAAGTATTTGGAGAACAGAATATGG CAAAGAGACCAGAGAGATATGCGGGCAATTCAGCCTGATGCAGGTTATTACAATGATCTGGTCCCACCTATAGGA ATGTTGAATAATCCTATGAATGCAGTAACAACAAAATTTGTTCGGACATCAACAAATAAAGTAAAGTGTCCTGTA TTTGTTGTTAGGTGGACTCCAGAAGGAAGACGCTTGGTCACTGGAGCTTCTAGTGGGGAGTTTACCCTGTGGAAT GGACTCACTTTCAATTTTGAAACAATATTACAGGCTCACGACAGCCCAGTGAGGGCCATGACGTGGTCACATAAT GACATGTGGATGTTGACAGCAGACCACGGAGGATATGTGAAATATTGGCAGTCGAACATGAACAACGTCAAGATG TTCCAGGCACATAAGGAGGCGATTAGAGAGGCCAGTTTCTCACCCACGGATAATAAATTTGCTACATGCTCTGAT GACGGCACTGTTAGAATCTGGGACTTTCTTCGTTGCCATGAGGAAAGAATTCTCCGAGGGCATGGTGCTGATGTG AAATGTGTAGACTGGCATCCAACCAAAGGGTTAGTTGTTTCAGGAAGTAAAGATAGTCAACAGCCAATCAAGTTC TGGGATCCCAAGACTGGGCAGAGTCTTGCAACACTTCATGCCCATAAAAACACAGTAATGGAAGTGAAATTAAAC CTCAATGGCAATTGGCTACTCACAGCATCACGTGATCATCTCTGTAAACTTTTTGATATCAGAAACCTAAAAGAA GAGCTTCAAGTCTTCCGAGGTCATAAGAAAGAAGCCACAGCTGTGGCCTGGCATCCTGTTCATGAAGGACTTTTT GCTCACGAAGGGATGATCTGGAGTCTGGCTTGGCATCCTCTTGGGCATATTCTCTGCTCAGGCTCAAATGACCAT ACTAGCAAATTCTGGACTCGAAACCGACCAGGTGATAAAATGCGAGATCGATATAATCTAAACCTTTTACCTGGA ATGTCTGAAGATGGAGTAGAATATGATGACCTCGAACCTAATAGCCTGGCAGTAATTCCAGGAATGGGAATACCA GAACAACTAAAATTAGCTATGGAACAAGAACAGATGGGGAAAGATGAATCAAATGAAATTGAAATGACAATTCCA GGTTTAGA'TTGGGGAATGGAGGAAGTGATGCAAAAGGATCAGAAAAAAGTACCTCAGAAGAAAGTTCCTTATGCA AAACCCATTCCTGCTCAGTTCCAGCAGGCTTGGATGCAAAATAAAGTTCCAATTCCTGCTCCAAATGAGGTGCTG AATGACAGAAAAGAAGACATTAAATTGGAAGAGAAGAAAAAAACACAAGCAGAAATTGAGCAAGAAATGGCTACA TTACAATATACTAACCCACAACTTCTGGAGCAACTTAAAATTGAAAGACTTGCACAGAAACAAGTTGAGCAAATT CAGCCTCCTCCCTCATCTGGCACCCCTCTCCTCGGACCCCAGCCTTTTCCAGGACAAGGTCCAATGTCTCAGATT CCTCAAGGTTTTCAACAGCCCCATCCATCTCAGCAGATGCCAATGAACATGGCTCAAATGGGGCCTCCAGGTCCA CAGGGACAGTTTAGGCCTCCTGGACCCCAGGGACAAATGGGACCACAAGGTCCTCCACTGCATCAGGGAGGTGGG GGGCCACAAGGATTCATGGGACCACAGGGGCCCCAGGGCCCCCAGGGGTTGCCACGGCCTCAGGACATGCAT GGGCCCCAAGGAATGCAGAGGCATCCTGGACCTCATGGCCCTTTGGGACCTCAAGGGCCACCTGGACCACAAGGT AGTTCTGGTCCTCAAGGTCATATGGGTCCTCAGGGTCCACCTGGCCCACAGGGTCACATAGGCCCCCAAGGCCCG CCTGGCCCTCAGGGTCACTTGGGCCCACAGGGGCCTCCGGGTACTCAAGGTATGCAGGGACCACCTGGTCCCAGA GGAATGCAAGGGCCTCCTCATCCTCATGGGATCCAAGGCGGACCAGGGTCTCAAGGGATCCAAGGTCCTGTGTCT CAGGGACCTCTGATGGGATTGAATCCAAGAGGAATGCAGGGGCCTCCAGGCCCCCGGGAGAACCAGGGTCCTGCT CCCCAAGGGATGATTATGGGCCACCCGCCTCAAGAGATGAGAGGACCTCACCCTCCAGGTGGACTACTGGGACAC GGCCCTCAGGAAATGAGAGGTCCTCAGGAGATCCGAGGCATGCAGGGGCCTCCACCCCAAGGATCAATGCTGGGA CCTCCCCAGGAATTGCGAGGGCCTCCAGGCTCACAAAGTCAGCAGGGGCCCCCCAGGGCTCTTTAGGACCTCCA CAGAGCACAGGCCCCCACCCCTGATACCAGGCCTAGGGCAGCAGGGAGCACAAGGTCGCATTCCCCCTCTGAAC CCCGGACAAGGACCTGGCCCCAACAAAGTTTCAGAAGAGGAGCCCCGCCGAGGCATGAGGGCCGTGCTCCCCCA GAGGAAGGGATGGTTTTCCTGGTCCTGAAGACTTTGGTCCAGAGGAGAATTTTGATGCTTCTGAGGAAGCGGCCC AGTTCCCTCGCTTTGAAGGAGGGCGGAAGCCAGATTCCTGGGATGGAAACAGAGAGCCTGGGCCAGGTCATGAAC CTCTCCAAGGCATGGACATGGCATCCCTACCTCCCGAAAGCGCCCCTGGCATGATGGCCCAGGCACTTCTGAGC ACAGAGAGATGGAGGCCCCAGGAGGCCCTTCTGAAGACCGAGGAGGCAAAGGCCGAGGGGGCCCAGGACCTGCTC AGAGAGTGCCCAAATCTGGGCGTTCCAGCTCCTTAGACGGAGAGCACCACGATGGATACCACAGAGATGAACCTT

921/6881 FIGURE 856B

TTGGGGGCCCTCCAGGCAGTGGCACCCCTTCTCGAGGGGGCCGGAGTGGCAGTAACTGGGGTAGAGGGAGTAACA TGAACTCTGGCCCGCCGAGGCGAGGAGCTTCACGGGGTGGTAGAAGGGGTCGGTAGAAGCTGGAACTGAGTACCC TGAGGCCTCTCTGGACAGTATGTAAGAACTTCTTGTGGACTCACCAAGAGAAACAAAAGGAAGCCTGCACCATTG TAGCCCTGAACTCTTTTCTGGGCACCTGAATCCCAGGAACCCTCAATGAGGTCTTCAAGATGAAGAGACTGCTGC CAGCTACCAGCCTGGCCTGTCCTGTCCACCCTCATTGCCCCAACTCCCATGTTGTTTTTGTGAAGATAAAA GCTGGGATCTTTTTCTTTTTTTTAAGTCTCACAAGACATGGGGCATCTCCACAAATTTAAGTTCCTGTCCATTTG GAAATTTGTTTCTATGTGTACAGTTTGTCAGAGAAAAACAAAGTTTTTGTATGAATACAGAATGTGATTTACGCA AGAATTGACAGAAAACTAGTTGTGAAGTGCTTGCCTTAAGGAAACCTTTGGTTTCCATCGCATCCCATCTGCCAA GGAATGCACGGTTGTTGCTGATGTTCATGAGCATATTAACCACTAGGTTATCTAAATTAATCTCAGCTGTGAACT TTGTGTTTTTCAACACATTCTGTCACACCATTTTTGTGACAGAAAAATACTTGAAAAATTATTCTAATGTAGTTTG TAGTAGGTTCAAATTTTTATTCAGACATGCTCTGACAGATGGAAAATTGTACTCTGAAGAGAAAATGCAATCTTC TGGATGTCCAACGAGGGAGCTTCCCCTTGGAAGCATCTCCTAAGAATCACAGTTTAGGTTTGAATCGCCTTGTTA TGATGAGGAGGAACTTGATGTTAGTCAGAAATAAAGTCACATGCCCTTTAGATAACTTGAAAATCACACATGGA TGGCAAATTCCTTGTTTAAAATAAACATACCATTTAGCCCAGTTTGGATTGGAAGCCAAAAATTCAGTTTGTTAT ATACCCCATGATACTTTCTATACTGACCTTTATTTTGGTTTTACATGGAAGCTTTTATTAAAAAGGACTGTCCTAT AATCACGGCTCACTTCAGCTTTGACCCTGCCTCAGCCTCCCTAGTAGCTAGGACTACAGGCATATGCCACCATGC CCAGCTAATTTTTTGTGTGTGTTTTTTTGTAGAGATGGAGTTTCACCACTTTGTCTATGCTGGTTTCAAACTCC TGGGCTCAAGCGGTCCACCTGCTGTGGCCTCCCAAAGTGCTGGGATTGCAGATCTGAGCCACAGTACCTGGCCGC TGGTGCTGGAAGTTTCAATGGTTGCTTAGAAAAGGCATACTGATATAGTTTAACAGGATATGAAAATTTAACTGG TTCTCTATGAATGTAAAAAACAGCAAAAGCTAATTGATTTCTGTGGAGTGAGAAAATGTCAGCCATATACACTGC TTTTCAGTGTTAGAATCTAGAGACTATTTTTTTTTTAACTTTGAAATTACAGCTTATTTAATCAGCGCTCCACCA TAAAGAGAGAAACTGTAATCAAATTTCATGAAGCTAAAACCGGATCCAGAGACCCAAACCCATATCAAGATTAG ACTITITITCCCTGAGATTCTAGTGGAAAAATTTTCATTATTTTGGGCTTTAACTTTAGAAACATAGTATCTCAG TAAGCAGATAACCAGATCACATTTAAAAATTTTCATTTTACCTTGAAGCTCTACTGGACTTGACAGATCACATTT TGAGAGTGAATTCATTTAAACAATAAACCTCTACATTATACTTAT

AGAACATCCAGTCACGGATAAAAATGAGCTGGTTCAGAAGGCCAAACTGGCCGAGCAGGCTGAGCAATATGATGA CATGGCAGCCTGCATGAAGTCTGTAACTAAGCAAGGAGCTGAATTATCCAATGAGGAGAGGAATCTTCTCTCAGT TGCTTATAAAATGTTGTAGGAGCCCGTAAGTCATCTTGGAGGGTCGTCTCAAGTATTGAACAAAAAACGGAAGG TGCTGAGAAAAACAGCAGATGGCTCGAGAACACAGAGAGAAAATTGAGACGGAGCTAAGAGATATCTGTAATGA TGTATTGTCTCTTTTGGAAAAGTTCTTGATCCCCAATGCTTCACAAGCAGAGAGCAAAGTCTTCTATTTGAAAAT GAAAGGAGATTACTACCGTTACTTGACTGAGGTTACTGCTGGTGATGACAAGATAGGGATTGTGGATCAGTCACA CCTTAACTTCTGTGTTCTATTATGAGATTCTGAACTCCCCAGAGAAAGCCTGCTGTCTTGCAAAGACCGCTTTTG ATGAAGCCATTGCTGAACTTGATACATTAAGTGAAGAGTCATACAAAGACAGCATGCTAATAATGCAATTACTGA GAGACAACTTGACATTGTGGACATCGGATACCCAAGGAGACGAAGCTGAAGCAGGAGAAGGAGGGGGAAAATTAAC CGGCCTTCCAACTTTTGTCTGCCTCATTCTAAAATTTACACAGTAGACCATTTGTCATCCATGCTGTCCCACAAA TAGTTTTTTGTTTATGATTTATGACAGGTTTATGTTACTTCTATTTGGATTTCTATATTTCCCATGTGGTTTTTA TGTTTAATATTAAGGGAGTAGAGCCAGTCAACATTTAGGGAGGTATCTGTTTTCATCTTGAGGTGGCCAATATTG GGATGTGGAATTTTTATACAAGTTATAAATGTTTGGCATAGTACTTTTGGTACATTGTGGCTTCACAAGGGCCAG TGTAAAACTGCTTCCATGTCTAAGCAAAGAAAACTGCCTACATATTGGTTTGTCCTGGTGGAGAATAAAAGGGAT CATTGATTCCAGTCAGAGGTGTAGTAATTGTGGGTACTTTTAAGGTTTGGAGCACTTTACAAGGCTGTGGTAGAA ACATACCCCATGGATACCACATGTTAAACCATGTATATCTGTGGAATACTCAGTCTCATTGTGCACACCTTTGAC TACAGCTGCAGAAGTTTTCCTTTAGATAAAGTTGTGACCCATTTTACTCTGGATAAGGGCAGAAACAGTTCACAT TCCATTATTTGTAAAGTTACCTGCTGTTAGCTTTCATTATTTTTGCTACACTCATTTTATTTGTATTTAAATGTT TTAGGCAACCTAAGAACAAATGTAAAAGTAAAGATGCAGTAAAAATGAATTGCTTGGTATTCATTGCTATGTA TGATACTTGCCTAACATGCATGTGCTGTAAAAATAGTTAACAAGGAAATAACTTGAGATGATGGCTAGCTTTGTT TAATGTCTTATGAAATGTTCGTGGATAATCCAAGCATAATTGTTAAGAACACGTGTATTAAATTCATGTAAGTGG AATAAAAGTTTTATGAATGGACTTTTCAACTACTTCTCTACAGCTTTTCGTGTAAATTAGTCTTTTGGTTCTGA AATTTCTCTAAAGGAAATTGTACATTTTTGAAATTTATTCCTTATTCCCTCTTGGCAGCTAATGGGCTTTTAGTA GTCTCTTCCTCCCCACCCTGAAAAAATGAGTTCCTATTTTTTCTGGGAGAGGGGGAGATTAATTGGAAAAAAATG TTAATATGTTCCATTTAAAATTTTGGTATATGGCATTTTCTAACTTAAGAAGCCACAATGTTCTTGGCCCATCAT GACAATGGGTAGCATTAACTATAAGTTTTGTGCTTCCAAATCACTTTTCGGTTTTTAAGAATTTCTTGATACTCC GTCTTGTCACCAACCATTCCTACTTGGTGGCCATGTACTTGGAAAAAGGCCGCATGATCTTTCTGGCTCCACTCA ATGTCTAAGGCACCCTGCTTCCTTTGCTTGCATCCCACAGACTATTTCCCTCATCCTATTTACTGCAGCAATTGT TTAAAATCCTTCCTCTTCTTCTCTATTCTCTAAATAATGATGGGGCTAAATTATACCCAAAGCTCACTTT TAGAATGTTAGAATGTAAGCTCCTCAAAAGCAGGGACAATGTTTTCCGTATGTTCTACTGTGCCTAGTATACTGT AAATGCTCAATAAATACTGATGATGGGAGGCAGTGAGTCTTGATGATAAGGGTGAGAAACCGAAATCCC

924/6881 FIGURE 859A

AGAAGGCCATTTTCAACTCTCCACTGGAGGCTGCTATCGCGCTCCCTCACCTGCAGCAGCCCAGCTTTCTACTGG CTAGCCTGAAAGCTGACTCTATAAATAAGCCCTTTGCACAGCAGTGCCAAGACTTGGTTAAAGTCATTGAGGACT TTCCAGCAAAGGAGCTGCACCACCATCTTCCCATGGCTGGTAGAAAGCATTTTTGGCAGCCTAGATGGTGTCCTCG TTGGCTGGAACCTCCGCTGCTTACAGGGGCGCGTGAATCCTGTGGAGTACAGCATCGTGATGGAATTTCTCGACC $\tt CTGGTGGCCCAATGATGATGGTTTATAAGCTTCAAGCTGAAGACTATAAGTTCGACTTTCCTGTCTCCTACT$ TGCCTGGTCCTGTGAAGGCGTCCATCCAGGAGTGCATCCTCCCTGACAGTCCTCTGTACCACAACAAGGTCCAGT TCACCCCTACTGGGGGCCTTGGTCTGAACTTGGCCCTGAATCCGTTCGAGTATTACATATTCTTCTTTGCCTTGA GCCTCATCACTCAGAAGCCACTTCCTGTGTCCCTCCACGTCCGTACTTCAGACTGTGCCTATTTCATCCTGGTGG ACAGGTACCTGTCATGGTTCCTGCCCACCGAAGGCAGTGTGCCCCCACCACTCTCCTCCAGCCCAGGGGGGGACCA GCCCCTCACCACCTCCCAGGACACCAGCCATACCCTTTGCTTCCTATGGCCTCCACCACCACACTAGCCTCCTAAAGC GACACATCTCTCATCAGACGTCTGTGAATGCAGACCCCGCCTCCCACGAGATCTGGAGGTCAGAAACTCTGCTCC AGGTTTTTGTTGAAATGTGGCTTCATCACTATTCCTTGGAGATGTATCAAAAAATGCAGTCCCCTCATGCCAAGG AGTCGTTCACGCCTACTGAGGAGCATGTGTTGGTGGTGCGCCTGCTGCTGAAGCACCTGCACGCCTTTGCCAACA GCCTGAAGCCAGAGCAGGCCTCACCCTCCGCCCACTCCCACGCCACCAGCCCCTGGAGGAGTTCAAACGGGCTG CTGTCCCGAGGTTCGTCCAGCAGAAACTCTACCTCTTCTTGCAGCATTGCTTTGGCCACTGGCCCCTGGACGCAT CGTTCAGAGCTGTCCTGGAGATGTGGCTGAGCTACCTGCAGCCGTGGCGGTACGCGCCTGACAAGCAGGCTCCGG GCAGCGACTCCCAGCCCCGGTGTGTCCGGAGAAATGGGCACCCTTTGTCCAGGAGAACCTGCTGATGTACACCA AGTTGTTTGTGGGCTTTCTGAACCGCGCGCTCCGCACAGACCTGGTCAGCCCCAAGCACGCGCTCATGGTGTTCC GAGTGGCCAAAGTCTTTGCCCAGCCCAACCTGGCTGAGATGATTCAGAAAGGTGAGCAGCTATTCCTGGAGCCAG AGCTGGTCATCCCCCACCGCCAGCACCGACTCTTCACGGCCCCCACATTCACTGGGAGCTTCCTGTCACCCTGGC CACCAGCGGTCACTGATGCCTCCTTCAAGGTGAAGAGCCACGTCTACAGCCTGGAGGGCCAGGACTGCAAGTACA CCCCGATGTTTGGGCCCGAGGCCCGCACCCTGGTCCTGCGCCTCGCTCAGCTCATCACACAGGCCAAACACACAG TGGACACCAATGGCTCCTACACAGCCAACGACCTGGACGAGATGGGGCAAGACAGTGTCCGGAAGACAGATGAAT ACCTGGAGAAGGCCCTGGAGTACCTGCGCCAGATATTCCGGCTCAGCGAAGCGCAGCTCAGGCAGTTCACACTCG TTACGCCCCTGGGGCGGTACCAGATCATCAATGGGCTGCGAAGGTTTGAAATTGAGTACCAGGGGGACCCGGAGC TGCAGCCCATCCGGAGCTATGAGATCGCCAGCTTGGTCCGCACACTCTTTAGGCTGTCGTCTGCCATCAACCACA GATTTGCAGGACAGATGGCGGCTCTGTGTTCCCGGGATGACTTCCTCGGCAGCTTCTGTCGCTACCACCTCACAG GGCTCAGCCTGCGCTTCCTGGGCAGTTACCGGACGCTGGTCTCGCTGCTGCTGCCTTCTTCGTGGCCTCTCTGT TCTGCGTCGGGCCCCTCCCATGCACGCTGCTCACCCTGGGCTATGTCCTCTACGCCTCTGCCATGACACTGC ${\tt TGACCGAGCGGGGGAAGCTGCACCAGCCC} \underline{{\tt TGA}} {\tt AGGTGTCAGCTGCCTTCAGAGCAGGCTGGAGGGATTTGCCACA}$ AGGACTCACGGCCAAGCCAGCTCTCGGGGCCTTTTTTCCACTGCCCATTTGGCTACTCTGCTGCACCAAGCTTGG CGCTTCCTCTCTGTGTGGGACCAGGACAGTGGCTTAAGTCTCCACTCCAGGAAAGAATCAAAGTTTCTAGAGT TGTGAGAAAACCAGAGAGTGGCTGTCCTGATTCTTCACTGTGAGGGGCGTTCTTCATGTTCTCCCAGCTGTTCCA AGACTGGGCCGTAGAATTCCATGTTTCAGGAGCCTAAGACCCTCCCAGAGCCCAGGGGCTTCACCGCAGACCCCA AGCCATTGAGCACATCACCCAAAGCAGTGGCCAACATCGCGGACCCCTGTGCCTTGTCACAGATGGGTGCTGGTC GAAGCATTGTCACTTCAGTAACATCAAGTGCTCAAAGACATGGCAACCGTTCAGTGGTACTTAAGTATTCAAAAT GAGAACAGCATCTCAGTGGTGATTTCCAAACCAAGCCTTTGTTTTCGGTGTGGGGGTTTTGGGGGGTTTAAT GTTTTTGAAATTGTAAATGTTGGGCTTTGTATTTTGATGTAAACTGAGCATAATGGCATTTTAGGGCCTGTGACC

925/6881 FIGURE 859B

MAFPHLQQPSFLLASLKADSINKPFAQQCQDLVKVIEDFPAKELHTIFPWLVESIFGSLDGVLVGWNLRCLQGRV
NPVEYSIVMEFLDPGGPMMKLVYKLQAEDYKFDFPVSYLPGPVKASIQECILPDSPLYHNKVQFTPTGGLGLNLA
LNPFEYYIFFFALSLITQKPLPVSLHVRTSDCAYFILVDRYLSWFLPTEGSVPPPLSSSPGGTSPSPPPRTPAIP
FASYGLHHTSLLKRHISHQTSVNADPASHEIWRSETLLQVFVEMWLHHYSLEMYQKMQSPHAKESFTPTEEHVLV
VRLLLKHLHAFANSLKPEQASPSAHSHATSPLEEFKRAAVPRFVQQKLYLFLQHCFGHWPLDASFRAVLEMWLSY
LQPWRYAPDKQAPGSDSQPRCVSEKWAPFVQENLLMYTKLFVGFLNRALRTDLVSPKHALMVFRVAKVFAQPNLA
EMIQKGEQLFLEPELVIPHRQHRLFTAPTFTGSFLSPWPPAVTDASFKVKSHVYSLEGQDCKYTPMFGPEARTLV
LRLAQLITQAKHTAKSISDQCAESPAGHSFLSWLGFSSMDTNGSYTANDLDEMGQDSVRKTDEYLEKALEYLRQI
FRLSEAQLRQFTLALGTTQDENGKKQLPDCIVGEDGLILTPLGRYQIINGLRRFEIEYQGDPELQPIRSYEIASL
VRTLFRLSSAINHRFAGQMAALCSRDDFLGSFCRYHLTEPGLASRHLLSPVGRRQVAGHTRGPRLSLRFLGSYRT
LVSLLLAFFVASLFCVGPLPCTLLLTLGYVLYASAMTLLTERGKLHQP

TGAGCGCCCAGCAAGTTCGTGCTGGTGGCGGGCTCGGTGTGCTTCATGCTCATCTTGTACCAGTACGCGGG CCCAGGACTGAGCCTGGGCGCCGCGGGGGCGCGCGCGCGACGACCTGGACCTGTTCCCCACGCCCGACCC ${\tt CGTGATCGTCTTCCTGCACATCCAGAAGACGGGCGGCACCACCTTCGGCCGCCACCTCGTGCAGAACGTACGCCT}$ CGAGGTGCCGTGCGACTGCCGGCCCGGCCAGAAGAAGTGCACCTGCTACCGGCCCAACCGCCGCGAGACTTGGCT CTTCTCCCGCTTCTCCACCGGCTGGAGCTGCGGGCTGCACGCCGACTGGACCGAGCTCACCAACTGCGTGCCCGG CGTGCTGGACCGCCGCGCTCCGCCGCGCTGCGCACGCCCAGGAAGTTCTACTACATCACCCTGCTACGAGACCC CGTGTCCCGCTACCTGAGCGAGTGGCGGCATGTGCAGAGGGGTGCCACGTGGAAGACGTCGTTGCATATGTGTGA TGGGCGCACGCCACGCCTGAGGAGCTGCCGCCCTGCTACGAGGGCACGGACTGGTCGGGCTGCACGCTACAGGA GTTCATGGACTGCCCGTACAACCTGGCCAACAACCGCCAGGTGCGCATGCTGGCCGACCTGAGCCTGGTGGGCTG CTACAACCTGTCCTTCATCCCCGAGGGCAAGCGGGCCCAGCTGCTGCTCGAGAGCGCCCAAGAAGAACCTGCGGGG CATGGCCTTCTTCGGCCTGACCGAGTTCCAGCGCAAGACGCAGTACCTGTTCGAGCGGACGTTCAACCTCAAGTT CGAGGAGCTCAACGACCTGGACATGCAGCTGTACGACTACGCCAAGGACCTCTTCCAGCAGCGCTACCAGTACAA GCGGCAGCTGGAGCGCAGGGAGCAGCGCCTGAGGAGCCGCGGAGGAGCGTCTGCTGCACCGGGCCAAGGAGGCACT GCCGCGGGAGGATGCCGACGAGCCGGGCCGCGTGCCCACCGAGGACTACATGAGCCACATCATTGAGAAGTGGTA GTGGCGGTGGTGGCCACGGGGAGGCCTCTTGGGGGGTGTGGGGGATAAAACAGGACAGACGACAGGTCCACCCAA TAGTGGGGCTGGGCAGGGATGGGGGCTTGAGAAATCAACAGGTGCAGCCCAGTGGGTCAGAGGAAAGCGTGCTCG AAGGATGCCATGGTCAGGGCAGGGCCTCCAGAGCAGGTGTTGTGCCTGGAGCTGCTCCTCGGCCTCCTTGGATT TATCGCAAAAACTGAAGGTTTGCGCAAGAGACGAGGACAGCGGAAAGTGGACCTGCCAGGCCGGGAGTGTGTCCC TCACCAACTATGCACACAGCACTCGCTCTTAGCTCCTCTGTCCGGGCTACTAGGAGTGAGACCAGCTTCTGGCAA CTGCCCAGCTCCAGGCCATCCCATAGCCCCTCTCTTCTGGCTGCCCCCAATGCCCCGAGGCCTGGGGAGCCCC CAGCTCACCCATCTGTAGCTCCCTCAAAGTCAGGGCCCACCCCATCTGAGGCAGAAGACTCGAGTCCAGCCCC CAGGAAGCCTGCTCCCCTCTCTGGCCCATGGTCCTGCTTCATGCTTTGGGTCAGGAGGCCAAAGCTGATGTTCAG GCCCCACCCACTCCCTACAGTCCTCAGACC

GACTGCCCGTACAACCTGGCCAACAACCGCCAGGTGCGCATCCTGGCCGACCTGAGCCTGGTGGGCTGCTACAAC CTGTCCTTCATCCCCGAGGGCAAGCGGGCCCAGCTGCTGCTCGAGAGCGCCCAAGAAGAACCTGCGGGGCATGGCC TTCTTCGGCCTGACCGAGTTCCAGCGCAAGACGCAGTACCTGTTCGAGCGGACGTTCAACCTCAAGTTCATCCGG CTCAACGACCTGGACATGCAGCTGTACGACTACGCCAAGGACCTCTTCCAGCAGCGCTACCAGTACAAGCGGCAG CTGGAGCGCAGGGAGCACCCCTGAGGAGCCGCGAGGAGCGTCTGCTGCACCGGGCCAAGGAGGCACTGCCGCGG GAGGATGCCGACGAGCCGGGCCGCGTGCCCACCGAGGACTACATGAGCCACATCATTGAGAAGTGG<u>TAG</u>TGGCGG TGGTGGCCACGGGGAGGCCTCTTGGGGGGTGTGGGGGATAAAACAGGACAGACGACAGGTCCACCCAAGACTGTC GCTGGGCAGGGATGGGGGCTTGAGAAATCAACAGGTGCAGCCCAGTGGGTCAGAGGAAAGCGTGCTCGAAGGATG $\verb|CCATGGTCAGGGCCTCCAGAGCAGGTGTTGTGCCTGGAGCTGCTCCTGGCCTCCTTGGATTTATCGCA|\\$ AAAACTGAAGGTTTGCGCAAGAGACGAGGACAGCGGAAAGTGGACCTGCCAGGCCGGGAGTGTGTCCCTCACCAA $\tt CTATGCACAGGCACTCGCTCTTAGCTCCTCTGTCCGGGCTACTAGGAGTGAGACCAGCTTCTGGCAACTGCCCC$ AGCTCCAGGCCATCCCATAGCCCCTCTCTTCTGGCTGCCCCCAATGCCCCGAGGCCTGGGGAGCCCCCAGCTCA $\tt CCTGCTCCCTCTCTGGCCCATGGTCCTGCTTCATGCTTTGGGTCAGGAGGCCAAAGCTGATGTTCAGGCCCCAC$ $\verb|CCACTCCTACAGTCCTCAGACCAAGGAGGGGTTTGGGTAGTAGGCCCGAGCTGCATTGCCGGCCTTCCTCGGGC|\\$ ${\tt CAACTGGCAGCCCAGGAGTGGGGAGGCTTTGGCCAGGGATGCTGCCACTTGTGCGTGAGTCCGCGGCTGGCCCTT}$ TTTCTGACCCACTGGGATTTGCTAGCAGGCTGCCCCAGCCCCATCACCGAAACACATACTCAAGAGCTCAAATAC ${\tt CACTGCTCCCACCAGCGTACGGATTAAGTTCATCAGGCTTCCATCGGCTGGAGCATGGGACCATAGCCCCTGCCC}$ AGGAGCCGTACCCTCGGACCACAGTGGCTCTGTATGGCCAGGAACTGGGACTCGAGCTTTCAGATTCTCAACTAG $\verb|CCTTGGCAAAACAGCTGTAGGTGGCCTCCCTGACAACAGACACTCAGCCCTCCCCACCCTGGCTCTCCTTGCATT|\\$ TCCCCATGCTCCCCACCCCTGGCAAAAGGCTGGCCATGCTCTGTTCCCAGCAGCCGCGCAGGTTTCCCCACTGG CTGCAATGGCCCTACCAAAAGCCATGTTGCATATCCGTTGTAAGCACGTGCCCTGTGCCCTGTCCCCATTCCTTA TGCCCTAGGAGGCCAAGCTGGTGTCTCTAGGAGGGCCCACACAGGCACCCTGGATCCCCCAGAGAGTAGATTGGT CTCTCTCCTGCCCCAGCTTCCACTCAGCCACCACAGTTGCCACACCATGGGGTGGAGACGTGGGTCACCACGGGC TTGGGAGCAAGCGCCTTCTGCAGCACAGGAAGCCGAAGCTGGGGTCAGGTGAGGTCGCTACCCCTGGAGGTCTGG CATAAGGGCCCCACCTCAGGTCTCCTACACTGGCCCCATTTTACTTTGGGGTCCAAGGACAGGATGGTCAACAG GGGGTGGGTGCACTCCTTGGAGGAGGAGGAACACGTTCAGGGGATTGTGAGGTCTTGCACAAGCCACGTGGGGCA $\verb|CCTTGGCTTCCCGGCAGGAGGTGGACACCCAGCCAGAGGCCTGGCTCAAGGTGACCTCACCTTCACCATGGGCTT|\\$ CCTGGGTGCGCGGGCCTGAGCGCAGGTTGTTTTGTACATATTGGAATATGTGTTAACTTATGCCCCGCATCCCAA CTCACACGGAAGCACGGGTCTTGTCTCAGTCTCTTCGCTGCATTTGGAAAGCAGTCTCCTCTCGGGCCAGCGCCG GGCTGAGGTGTCCAGAGGCGGCGGCAGCTGGCAGTGCCCTCAGCCCCCAAGTGTCCAGCCTGGCACTTCCCATTC AGGCCACCTGCTTTGGGTCAACAGTTCCTTTGCCAGCAGCATCTCCTAAATTGTAAGGACTCTGTCCACCGGGGC CCTCCCAGGGCTGTGAGGACGGAAACAGGCAGGGAGTGGAGCTAACAGCTTAGTCACCAGGACCCCCAGACCTGC AAACGTCCCTCCTGGAAGGGGAAGCCAGGAACAGCAGAACTGCCCACAAAACAAGGCTGTGAACTTTTCGGGAA GAAGAAATTTTTTGGTTATTCATACAAAAAAATGAGTTGATGATGGAAAAGCAAGTCATAATCATCTAATTGTTT TTGTCTAGGTCGAGAATGAATGTTAGCTGATGAAATAAACCCTGACAAGG

MLADLSLVGCYNLSFIPEGKRAQLLLESAKKNLRGMAFFGLTEFQRKTQYLFERTFNLKFIRPFMQYNSTRAGGV EVDEDTIRRIEELNDLDMQLYDYAKDLFQQRYQYKRQLERREQRLRSREERLLHRAKEALPREDADEPGRVPTED YMSHIIEKW :

GGAAAAAAGCGACTTGTGGCGGTCGAGCGTGGCGCAGGCGAATCCTCGGCACTAAGCAAATATGGACCTCGCGGC GGCAGCGGAGCCGGCCGCCAGCCAGCACCTGGAGGTCCGCGACGAGGTGGCCGAGAAGTGCCAGAAACTGTT CCTGGACTTCTTGGAGGAGTTTCAGAGCAGCGATGGAGAAATTAAATACTTGCAATTAGCAGAGGAACTGATTCG TCCTGAGAGAAACACATTGGTTGTGAGTTTTGTGGACCTGGAACAATTTAACCAGCAACTTTCCACCACCATTCA AGAGGAGTTCTATAGAGTTTACCCTTACCTGTGTCGGGCCTTGAAAACATTCGTCAAAGACCGTAAAGAGATCCC TCTTGCCAAGGATTTTTATGTTGCATTCCAAGACCTGCCTACCAGACACAAGATTCGAGAGCTCACCTCATCCAG AATTGGTTTGCTCACTCGCATCAGTGGGCAGGTGGTGCGGACTCACCCAGTTCACCCAGAGCTTGTGAGCGGAAC TTTTCTGTGCTTGGACTGTCAGACAGTGATCAGGGATGTAGAACAGCAGTTCAAATACACACAGCCAAACATCTG GGTTCGTATTCAAGAGACCCAAGCTGAGCTTCCTCGAGGGAGTATCCCCCGCAGTTTAGAAGTAATTTTAAGGGC TGAAGCTGTGGAATCAGCTCAAGCTGGTGACAAGTGTGACTTTACAGGGACACTGATTGTTGTGCCTGACGTCTC CAAGCTTAGCACACCAGGAGCACGTGCAGAAACTAATTCCCGTGTCAGTGGTGTTGATGGATATGAGACAGAAGG TGTGAAAGAATGGGAGAAAGTGTTTGAGATGAGTCAAGATAAAAATCTATACCACAATCTTTGTACCAGCCTGTT CCCTACTATACATGGCAATGATGAAGTAAAACGGGGTGTCCTGCTGATGCTCTTTGGTGGCGTTCCAAAGACAAC AGGAGAAGGGACCTCTCTTCGAGGGGACATAAATGTTTGCATTGTTGGTGACCCAAGTACAGCTAAGAGCCAATT TCTCAAGCACGTGGAGGAGTTCAGCCCCAGAGCTGTCTACACCAGTGGTAAAGCGTCCAGTGCTGGCTTAAC AGCAGCTGTTGTGAGAGATGAAGAATCTCATGAGTTTGTCATTGAGGCTGGAGCTTTGATGTTGGCTGATAATGG TGTGTGTTGTATTGATGAATTTGATAAGATGGACGTGCGGGATCAAGTTGCTATTCATGAAGCTATGGAACAGCA GACCATATCCATCACTAAAGCAGGAGTGAAGGCTACTCTGAACGCCCGGACGTCCATTTTGGCAGCAGCAAACCC AATCAGTGGACACTATGACAGATCAAAATCATTGAAACAGAATATAAATTTGTCAGCTCCCATCATGTCCCGATT CGATCTCTTCTTTATCCTTGTGGATGAATGTAATGAGGTTACAGATTATGCCATTGCCAGGCGCATAGTAGATTT GCATTCAAGAATTGAGGAATCAATTGATCGTGTCTATTCCCTCGATGATATCAGAAGATATCTTCTCTTTGCAAG ACAGTTTAAACCCAAGATTTCCAAAGAGTCAGAGGACTTCATTGTGGAGCAATATAAACATCTCCGCCAGAGAGA TGGTTCTGGAGTGACCAAGTCTTCATGGAGGATTACAGTGCGACAGCTTGAGAGCATGATTCGTCTCTCTGAAGC AATCATCCGTGTGGAAACACCTGATGTCAATCTAGATCAAGAGGAAGAGATCCAGATGGAGGTAGATGAGGGTGC TGGTGGCATCAATGGTCATGCTGACAGCCCTGCTCCTGTGAACGGGATCAATGGCTACAATGAAGACATAAATCA AGAGTCTGCTCCCAAAGCCTCCTTAAGGCTGGGCTTCTCTGAGTACTGCCGAATCTCTAACCTTATTGTGCTTCA CACACACTATGATCATGTTCTAATTGAGCTCACCCAGGCTGGATTGAAAGGCTCCACAGAGGGAAGTGAGAGCTA TGAAGAAGATCCCTACTTGGTAGTTAACCCTAACTACTTGCTCGAAGAT<u>TGA</u>GATAGTGAAAGTAACTGACCAGA AAGTGATGCTTCCAGGATTTGTTTTCAGAAACAAGAATTGAGTTGATGGTCCTATGTGTCACATTCATCACAGGT TTCATACCAACACAGGCTTCAGCACTTCCTTTGGTGTGTTTCCTGTCCCAGTGAAGTTGGAACCAAATAATGTGT AGTCTCTATAACCAATACCTTTGTTTTCATGTGTAAGAAAAGGCCCATTACTTTTAAGGTATGTGCTGTCCTATT

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LVSGTFLCLDCQTVIRDVEQQFKYTQPNICRNPVCANRRRFLLDTNKSRFVDFQKVRIQETQAELPRGSIPRSLE
VILRAEAVESAQAGDKCDFTGTLIVVPDVSKLSTPGARAETNSRVSGVDGYETEGIRGLRALGVRDLSYRLVFLA
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LADNGVCCIDEFDKMDVRDQVAIHEAMEQQTISITKAGVKATLNARTSILAAANPISGHYDRSKSLKQNINLSAP
IMSRFDLFFILVDECNEVTDYAIARRIVDLHSRIEESIDRVYSLDDIRRYLLFARQFKPKISKESEDFIVEQYKH
LRQRDGSGVTKSSWRITVRQLESMIRLSEAMARMHCCDEVQPKHVKEAFRLLNKSIIRVETPDVNLDQEEEIQME
VDEGAGGINGHADSPAPVNGINGYNEDINQESAPKASLRLGFSEYCRISNLIVLHLRKVEEEEDESALKRSELVN
WYLKEIESEIDSEEELINKKRIIEKVIHRLTHYDHVLIELTQAGLKGSTEGSESYEEDPYLVVNPNYLLED

 $\tt CCGGGATCTCGAGATAGCCGCAGCTCTCGCGATCTTTCTGGAGCCGCACCTCCACGCGGAGTCCGAGCGCGTGTG$ $\tt CGAGGGAGGGTGGTCCACTGCCCAGTTCCGTGTCCCGATGCCCAGCGCCAGCGCCAGCCGCAAGAGTCAGGAG$ AAGCCGCGGGAGATCATGGACGCGGCGGAAGATTATGCTAAAGAGAGATATGGAATATCTTCAATGATACAATCA CAAGAAAAACCAGATCGAGTTTTGGTTCGGGTTAGAGACTTGACAATACAAAAAGCTGATGAAGTTGTTTGGGTA CGTGCAAGAGTTCATACAAGCAGAGCTAAAGGGAAACAGTGCTTCTTAGTCCTACGTCAGCAGCAGTTTAATGTC CAGGCTCTTGTGGCGGTGGGAGACCATGCAAGCAAGCAGGTTAAATTTGCTGCCAACATCAACAAGAGAGC ATTGTGGATGTAGAAGGTGTTGTGAGAAAAGTGAATCAGAAAATTGGAAGCTGTACACAGCAAGACGTTGAGTTA CATGTTCAGAAGATTTATGTGATCAGTTTGGCTGAACCCCGTCTGCCCCTGCAGCTGGATGATGCTGTTCGGCCT GAGGCAGAAGGAGAAGAAGGAAGAGCTACTGTTAACCAGGATACAAGATTAGACAACAGAGTCATTGATCTT AAAGGTTTTGTGGAAATCCAAACTCCTAAAATTATTTCAGCTGCCAGTGAAGGAGGAGCCAATGTTTTTACTGTG TCATATTTTAAAAATAATGCATACCTGGCTCAGTCCCCACAGCTATATAAGCAAATGTGCATTTGTGCTGATTTT GAGAAGGTTTTCTCTATTGGACCAGTATTCAGAGCGGAAGACTCTAATACCCATAGACATCTAACTGAGTTTGTT GGTTTGGACATTGAAATGGCTTTTAATTACCATTACCACGAAGTTATGGAAGAAATTGCTGACACCATGGTACAA ATATTCAAAGGACTTCAAGAAAGGTTTCAGACTGAAATTCAAACAGTGAATAAACAGTTCCCATGTGAGCCATTC AAATTTTTGGAGCCAACTCTAAGACTAGAATATTGTGAAGCATTGGCTATGCTTAGGGAAGCTGGAGTCGAAATG GGAGATGAAGACGATCTGAGCACCAAATGAAAAGCTGTTGGGTCATTTGGTAAAGGAAAAGTATGATACAGAT TTTTATATTCTTGATAAATATCCATTGGCTGTAAGACCTTTCTATACCATGCCTGACCCAAGAAATCCCAAACAG TCCAACTCTTACGATATGTTCATGAGAGGAGAAGAATATTGTCAGGAGCTCAAAGAATACATGATCCTCAACTG GCCCCTCCTCATGCTGGTGGAGGCATTGGATTGGAACGAGTTACTATGCTGTTTCTGGGATTGCATAATGTTCGT TAGTGCACAGGCTGTACTTTAGGTACTTAAAATATGCACTAGAATAAATTTGCAAGGCCCTAAAATATCACTGTT ATTTTTGGAGTAATTCAGTATAGGTTCGTTTAAAAGAGATTTTTATAACTTCAGACATGCATCAGTAGGAAATAA CTTGAGAAATTCATATGGTTATGTTACAAATTCATATTCTGTTACTACAGTAAACGTTAAGAGTTTTAAACAGTT AAGATTGTACAATTTTTCTTCTTTTCTATATTACAAGGGCCCCAGTGTTAATGTCTTAGATTTTCAGTATTTGAA GCATATCATGGAAAATTAACCAGAAAGTATCAGTTCTTAAAAGTTATGCCTAGAAATTATGTAAAGCTAAACTAC TGGTTAGAAAGTATTCAGTGTAATATTGTATTAAATTTGTTAAATTCTAAACTTGAATTTCAATAAAATTTTAAAG

ATAGCACCTTGCACCGATAGAGCCCGGCAAGGCTTTGCGGGCCTTAATTATTTCCCCCAAGATCGATGAGACCCCT GGATGCAGACAAGGTCCAGCACGCCCAGCAGAGCCTGCGGCCTGCGGGTTCCTCGGGCGGATGGCACTGCAAAAT TCAGCCCTTAATTCAATCAATATGTGCCTTCGAGGAGTTTATAGTCATGGTTTGGTATGGTATGTGATGCA CACAAAGCAGAGACAGCTGCATGTAGAAGGGCAGGGGAGCATGGAGGCCCCAGTACAGCCAGGAGGCCCCTGGAG CTTCAGGCAGCAGGACATGGGTCTGGATCTGTAGTCAGAGGGGAGGTCAGGAAAGAGCTTGTACACCAGCAAAAG ATTGGATCCTGTGGTTCTCAAACCCTTATTAGTCCTGGAGCTGTGTTTCAAGGAAATTCTGCAGAAGAACAGCAG TTCCCTTGCAAGGATGACCCCAGGGCCCCTGGTTCCCAGCAGCTCCAAGATGAGATGGCAGAAAGGGAGAGGGGG AACCAAGGAGGGAAGGAGGAAATATATTCAGTGCAGCTGCCCCAACGTCCCTCAAGGACAAGCACAAAGGGGT GGTGTGGACAAGCATAATGCAATTGGCCCAGGGACAGGCCATAGACCCCACTTCCAAACCCCATTTCTCCTCACA TCTGCTGTGGGCCAGGCTGGCCACCAGCGCTGGGTAAGTAGGGACTGGCCTAGCCACAGGCCTCAAGGATGCCGA AGTCTGGTGGGGGAGACAAGCATGGAGAGACAGAGATGGCAGAGGCCAGGACAGGAAGCCTCTGGGCATCCTG GCTGAGGACAGGGTGGCACACCCAGAGGAGAGTGAATCGTGGAAATGCCGAAAGCTAAAGAGAAGATTCCCACCA TCTTCCCCTCCACCCCATAGAAGTTTGGCTGACAACCACGGGTTCATACCACATTTCCACATATGGGAAGAATCT GTGGCCCAGAGTGGTTACATTAGAGCACCTCCTCCCCTGAGAGCCACACAAGGGCCCCATACCACCTTCCAGTTCA TGGCTCCACCTTTGTCCTGCTCTCACAACCTTCCCAGACCTGGCCTATACCCACATGTTATTAAATAATCTTCTA GCTAAGGAATATGTCCTGTTCTGTGGAGAGCAGAIGATCAATAGGTGGTTCCCAGCTAATGGAGTGACTGGAGCA AGGCTCATAGGCCTTTCAGTTCCATCAAAGGAAGATAAGTCCCCACTCATTGTCCCTGGAGGAAACTGTGAGGTC TTCTTATATTTGCATGTATGTGCCAAAGAGAGACATGTAAAAACCAGAGCCCGGAGACATAGAGAAGATCATTCA ACTCAGCAAACAGCCTTTGGATTCCACTTGGGAAATATGGAAACTGAACAGCCAGAAGAAACCTTCCCTAACACT GAAACCAGTGGTGAATTTGGTAAACGCCCTGCAGAAGATATGGAAGAGGAACAAGCATTTAAAAGATCTAGAAAC ACTGATGAGATGGTTGAATTACCCATTCTGCTTCAGAGCAAGAATGCTGGAGCAGTGACTGGAAAAAGGAGGCAAG AATATTAAGGCTCTCCATACAGACTACAACGCCAGCATTTCAGTTCTAGACAGCAGTGGCCCCCAGCATATATTG CATATCAGTGCTGATATCGAAACAATTGGAGAAATTCTGAAGAAAATCATCACTACCTTGGAAGAGGGCCCGCAG TTGCCATCACCCACTGCAACCAGCCCAGCTCCGCTCGAATCTGATGCTGTGGAATACTTAAATTACCAACAATAT AAAGGAAGGGACTTTGACTGCGAGTTGAGGCTGTTGATTCATCAGAGTCTAGCAGGAGGAATTATTGGGGAATGT TGTCCTCATTTCACTGATAGAGTTGTTCTTATTGGAGGAAAACCCAATAGGGTTGTAGAGTGCATAAAGATCATC CTTGATCTTATTTCTGAGTCTCCCATCAAAGGACATGCACAGCCTTATGATCCCAATTTTTACGATGAAACCTAT GATTATGGTGGTTTTACAATGGTGTTTGCTGACGACCGTGGACGCCCAGGGGGAGACCTCATGACCTATAACAGA AAAGGGAGACCTGGAAACCGTTACGACGGCGTGGTTGATTTCAGTGCTGATGAAACTTGGGGCTCTGCAATAGAT ACATGGAACGCATCAGAATGGCAGATGGCTTATGAACCACAGGGTGGCTCCAGATATGATTATTCCTATGCAGGG TGTCATGGCTCATATGGTGATCTTGGTGGACCTATTATTACTACACAAGGAGCTTTGATCAAAATTGATGAGCCT TTAGAAGGATCCGAAGATCGGATCATTACCATTACAGGAACACAGGACCAGATACAGAATGCACAGTATTTGCCG CAGAATAGTGTGAAGCAGTATTCTGGAAAGTTTTTC<u>TAA</u>

MTKKNACMGLVFQIQSRLKAFILFLIAPCTDRARQGFAGLNYFPKIDETPQPPGQQHPTAVFQMDELRRKLQSRQ GCRQGPARPAEPAACGFLGRMALQNSALNSINMCLRGVYSHGLVWLVCDAHKAETAACRRAGEHGGPSTARRPLE LQAAGHGSGSVVRGEVRKELVHQQKIGSCGSQTLISPGAVFQGNSAEEQQFPCKDDPRAPGSQQLQDEMAERERG NQGEGRRKYIQCSCPNVPQGQAQRGGVDKHNAIGPGTGHRPHFQTPFLLTAQGLKGTRWMQSRGHPEMEVDRQCG MALHPETPRHYLALSVSNFTHTGERSAVGQAGHQRWVSRDWPSHRPQGCRSLVGETSMERDRDGRGQDRKPLGIL AEDRVAHPEESESWKCRKLKRRFPPEITEQNMQKYKIAQPPSLTDPFVPFSSPPPHRSLADNHGFIPHFHIWEES VAQSGYIRAPPPLRATQGPIPPSSSWLHLCPALTTFPDLAYTHMLLNNLLDMPLGFAAKTLEIKYLSEPTWDVAK AKEYVLFCGEQMINRWFPANGVTGARLIGLSVPSKEDKSPLIVPGGNCEVFLYLHVCAKERHVKTRARRHREDHS KAHAKLKTIPGTGPHLLTLGPVLPPTQQTAFGFHLGNMETEQPEETFPNTETSGEFGKRPAEDMEEEQAFKRSRN TDEMVELPILLQSKNAGAVTGKGGKNIKALHTDYNASISVLDSSGPQHILHISADIETIGEILKKIITTLEEGPQ LPSPTATSQLPLESDAVEYLNYQQYKGRDFDCELRLLIHQSLAGGIIGECCPHFTDRVVLIGGKPNRVVECIKII LDLISESPIKGHAQPYDPNFYDETYDYGGFTMVFADDRGRPGGDLMTYNRKGRPGNRYDGVVDFSADETWGSAID TWNASEWQMAYEPQGGSRYDYSYAGCHGSYGDLGGPIITTQGALIKIDEPLEGSEDRIITITGTQDQIQNAQYLP QNSVKQYSGKFF

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CGTGGGCTGACATCTGCAGGCTGA

MKQLITPAKQQEAFEQKLCSPSSIRGHFCSSVKQADHRTLRQRLRGRLMRRRLSVSTKALRLATEGSWNEYVVRD WNYSGVSLGLLQIAQAMDDEGSMLIAVDPQCRFSGDLLPYDSLIGVPLAPHVTLLDKNQNGSRLVCFSCLPPVRA GTEWQLSALHRAPRSTQPDKACRLGYKAKQGYIIYRICVRREEQAGHHCGALRVLNSYWVGEDSTYKFFEVILID PFHKAIRRNPDTQWITKPVHKHREMRGLTSAG

 ${\tt MWGDLWLLPPASANPGTGTEAEFEKAAEEVRHLKTKPSDEEMLFIYGHYKQATVGDINTERPGMLDFTGKAKWDAWNELKGTSKEDAMKAYINKVEELKKKYGI}$

MNYKGSPIKVTLATLKMSVQPKDSLGGFEITPPVVLRLKCGSGPVHISGQHLVAVEEDAESEDEEEEDVKLLSVS GKRSARGGGSKIPQKKVKVAADEDEDDDDEDFDDGEAEEKAPVKKSIRDTPAKNAQKSNQNGKDSKPSTPRSKGQ DSFKKTGKNF

CAATCCTGTCGCTTAATCCGCAGGAAGATGTCGAGTTTCAAAAGGAGGTGGCGCAGGTTCGCAAGCGCATAACCC AGATCTTTTCATATTTCTCCCAGTTTGGCACTGTGACACGGTTCAGGCTGTCCAGAAGTAAAAGGACTGGAAATA GCAAAGGCTATGCATTTGTGGAGTTTGAGTCTGAGGATGTTGCCAAAATAGTTGCTGAAACAATGAACAACTACC TGTTTGGTGAAAGACTCTTGGAGTGTCATTTTATGCCACCTGAAAAAGTACATAAAGAACTCTTTAAAGACTGGA ATATTCCATTTAAGCAGCCATCATATCAATCAGTGAAACGGTATAATCGGAATCGGACACTAACACAAAAGCTAC GGATGGAGGAGCGATTTAAAAAGAAAGAAAGATTACTCAGGAAGAAATTAGCTAAAAAAAGGAATTGACTATGATT TTCCTTCTTTGATTTTACAGAAAACGGAAAGTATTTCAAAAACTAATCGTCAGACGTCTACAAAAAGGCCAGGTTT TACGTAAGAAGAAAAAAAGTTTCAGGTACTCTTGACACTCCTGAGAAGACTGTGGATAGCCAGGGCCCCACAC CAGTTTGTACACCAACATTTTTGGAGAGGCGAAAATCTCAAGTGGCTGAACTGAATGATGATGATAAAGATGATG AAATAGTTTTCAAACAGCCCATATCCTGTGTAAAAGAAGAAATACAAGAGACTCAAACACCTACACATTCACGGA AAAAAAGACGAAGAAGCAGCAATCAGTGATTTTCAATGTATTATTTTCTTTTGAAAAAATATAATATTTTTATGAGAGTGGACTTTGTATTTCACTAGGTACAATGGAATACAACCTTTGACAAGATTTTCAGAGGAAAAATACACTGTT TGCAGTGGCTTGGCTGACATTGCCTCTTTGTCCTGGCCTCTAGTTTTCTTTTGATATTTCATAGCTCTCCTTAGT TTACTCTGCCTGGATAGAAAGTTGACCACTAACTGCAGGTTTAAGTACTAAACTGCAGCCTTTTCTGTCGCCAGC AATTAAAGACCACCAATCTTGTTTGTCCATCTACATGGTTTGTCGGGGACATTTAACTCATGGAGGTGCTTTAGA TTTCAACATCAGATGGTTGAAGCTGGAAGTTTAATTATATGTAGAGTGAGAAGGCAGTTCCAGTTTTAGCACAGA TTTGTTTATGTGTTCAGATTTTAATAGAGATTCAAAAATGACTCATTTTTACCAATAATGTTAAATTAGTTTTGG TTGTGCTAGCATGAATTAATAACCACCATTTTATACCAGTATCATCAGTGAAGAATTGTATTTCAAGATTCAAAC

MATFSGPAGPILSLNPQEDVEFQKEVAQVRKRITQRKKQEQLTPGVVYVRHLPNLLDETQIFSYFSQFGTVTRFR LSRSKRTGNSKGYAFVEFESEDVAKIVAETMNNYLFGERLLECHFMPPEKVHKELFKDWNIPFKQPSYQSVKRYN RNRTLTQKLRMEERFKKKERLLRKKLAKKGIDYDFPSLILQKTESISKTNRQTSTKGQVLRKKKKKVSGTLDTPE KTVDSQGPTPVCTPTFLERRKSQVAELNDDDKDDEIVFKQPISCVKEEIQETQTPTHSRKKRRRSSNQ

CCGCGGCGTCCACACTCGCCGCGCGCGGCGGCCGGCCGGGCTGGACCTTGCTGGCCCGCGGGCGCCATGAGCCGCAGC TTCAGCGACATCCAGGCCTGCTCGGCCGCCTGGAAGGCTGACGGCGTGTGCTCCACCGTGGCCGGCAGTCGGCCA GAGAACGTGAGGAAGAACCGCTACAAAGACGTGCTGCCTTATGATCAGACGCGAGTAATCCTCTCCCTGCTCCAG CAAGGACCCTTGCCTCACACCCTGCTAGACTTCTGGAGACTGGTCTGGGAGTTTGGGGTCAAGGTGATCCTGATG GCCTGTCGAGAGATAGAGAATGGGCGGAAAAGGTGTGAGCGGTACTGGGCCCAGGAGCAGGAGCCACTGCAGACT GGGCTTTTCTGCATCACTCTGATAAAGGAGAAGTGGCTGAATGAGGACATCATGCTCAGGACCCTCAAGGTCACA TTCCAGAAGGAGTCCCGTTCTGTGTACCAGCTACAGTATATGTCCTGGCCAGACCGTGGGGTCCCCAGCAGTCCT GACCACATGCTCGCCATGGTGGAGGAAGCCCGTCGCCTCCAGGGATCTGGCCCTGAACCCCTCTGTGTCCACTGC AGTGCGGGTTGTGGGCGAACAGGCGTCCTGTGCACCGTGGATTATGTGAGGCAGCTGCTCCTGACCCAGATGATC CAGTACAGGTTCCTGTACCACACGGTGGCTCAGATGTTCTGCTCCACACTCCAGAATGCCAGCCCCCACTACCAG AACATCAAAGAGAATTGTGCCCCACTCTACGACGATGCCCTCTTCCTCCGGACTCCCCAGGCACTTCTCGCCATA CCCCGCCCACCAGGAGGGGTCCTCAGGAGCATCTCTGTGCCCGGGTCCCCGGGCCACGCCATGGCTGACACCTAC GCGCGCAGCGCGAGGAGGCGCCGCTCTACAGCAAGGTGACGCCGCGCGCCCAGCGACCCGGGGCGCACGCGGAG GACGCGAGGGGGACGCTGCCTGGCCGCGTTCCTGCTGACCAAAGTCCTGCCGGATCTGGCGCCTACGAGGACGTG GCGGGTGGAGCTCAGACCGGTGGGCTAGGTTTCAACCTGCGCATTGGGAGGCCGAAGGGTCCCCGGGACCCGCCT TGTGGGGGCTTTGCCCCAATGACTGTAGCATTCAAGGCTTGAGGCTGGAGGAGGTAGCTAGGGTATAGTGGCTGG TGAGGCTGCACAGAGCAGATTCAAGAAAGAAGATCAGGAAGGGGCATGACCCCTGAGTTATGAAGGGGAGAAGGG TGGACACTCAGGGGACCACACAGAGAAGTGGATGGACACTTCGCCATCCAGGCAGAACTAAGCCAGGCATAACCA CAGCCAACAGCTTGATAGACCAGTGCAGCCAGAGAGACCACCAAACAGAGCCCCCAAAAGACAGACATCTCTGCT AGCTGGACAGCCAGGTGGACCCCCTAAGTTAGATTACTAGACAGATATAAACAGATCCCCTGCTGAACAGATACA ATGAGTACACATCTCCAGCTATTCAGACAGATGGACCCCAGCAAATCAGGACCTATCTAGGCAGACCCCAGCCA GACCCCCGCCAGACAGACTCCCAACCAGACTGACCCCTTACTATTCACACAGCCTGCCGAGTAGCTGGGACTACA GGTCTAATTTTTTTTTTTTTAAGAAATGAGTTTTTGCCATGTTGCCCAGACTGGTCTTGAACTCCCAACCTCAA GCAATCCTCCTGCCTCAGCCTCCCAAAGTGCTGAGATTACAGGTGTGAGCCACCAGGCTCAGCCCCCTAAGATTT GAAACACTTTAAATGGCCCATGGTAGGGTTCCTGCTAGGATAAAACATTAAGCGGCTGTTAAAAGAAATAAAAGG AGGACACGTCTCTGTGC

MLRREARLRREYLYRKAREEAQRSAQERKERLRRALEENRLIPTELRREALALQGSLEFDDAGGEGVTSHVDDEY RWAGVEDPKVMITTSRDPSSRLKMFAKELKLVFPGAQRMNRGRHEVGALVRACKANGVTDLLVVHEHRGTPVGLI VSHLPFGPTAYFTLCNVVMRHDIPDLGTMSEAKPHLITHGFSSRLGKRVSDILRYLFFVPKDDSHRVITFANQDD YISFRHHVYKKTDHRNVELTEVGPRFELKLYMIRLGTLEQEATADVEWRWHPYTNTARKRVFLSTE

AAGAACTGGCCTGTACATTTTCAAGGAATTCTTGAGAGGTTCTTGGAGAGATTCTGGGAGCCAAACACTCCATTG GGATCCTAGCTGTTTTAGAGAACAACTTGTA**ATG**GAGCCTTCATCTCTTGAGCTGCCGGCTGACACAGTGCAGCG CATTGCGGCTGAACTCAAATGCCACCCAACGGATGAGAGGGTGGCTCTCCACCTAGATGAGGAAGATAAGCTGAG GCACTTCAGGGAGTGCTTTTATATTCCCAAAATACAGGATCTGCCTCCAGTTGATTTATCATTAGTGAATAAAGA TGAAAATGCCATCTATTTCTTGGGAAATTCTCTTGGCCTTCAACCAAAAATGGTTAAAACATATCTTGAAGAAGA ACTAGATAAGTGGGCCAAAATAGCAGCCTATGGTCATGAAGTGGGGAAGCGTCCTTGGATTACAGGAGATGAGAG TTTACATCTTCTAATGTTATCATTTTTTAAGCCTACGCCAAAACGATATAAAATTCTTCTAGAAGCCAAAGCCTT CCCTTCTGATCATTATGCTATTGAGTCACAACTACAACTTCACGGACTTAACATTGAAGAAAGTATGCGGATGAT TGCAGTGATCCTGTTCAGTGGGGTGCATTTTTACACTGGACAGCACTTTAATATTCCTGCCATCACAAAAGCTGG ACAAGCGAAGGGTTGTTATGTTGGCTTTGATCTAGCACATGCAGTTGGAAATGTTGAACTCTACTTACATGACTG ${\tt GGGAGTTGATTTTGCCTGCTGGTGTTCCTACAAGTATTTAAATGCAGGAGCAGGAGGAATTGCTGGTGCCTTCAT}$ TCATGAAAAGCATGCCCATACGATTAAACCTGCATTAGTGGGATGGTTTGGCCATGAACTCAGCACCAGATTTAA GATGGATAACAAACTGCAGTTAATCCCTGGGGTCTGTGGATTCCGAATTTCAAATCCTCCCATTTTGTTGGTCTG TTCCTTGCATGCTAGTTTAGAGATCTTTAAGCAAGCGACAATGAAGGCATTGCGGAAAAAATCTGTTTTGCTAAC TGGCTATCTGGAATACCTGATCAAGCATAACTATGGCAAAGATAAAGCAGCAACCAAGAAACCAGTTGTGAACAT CCAAGAACTAGAAAAAAGAGGAGTGGTTTGTGACAAGCGGAATCCAAATGGCATTCGAGTGGCTCCAGTTCCTCT CTATAATTCTTTCCATGATGTTTATAAATTTACCAATCTGCTCACTTCTATACTTGACTCTGCAGAAACAAAAAA ${f T}{f T}{f A}{f G}{f C}{f A}{f G}{f T}{f T}{f T}{f C}{f A}{f A}{f C}{f T}{f A}{f A}{f G}{f C}{f T}{f G}{f T}{f A}{f T}{f T}{f T}{f C}{f A}{f G}{f T}{f A}{f T}{f T}{f T}{f C}{f G}{f T}{f A}{f T}{f T}{f T}{f C}{f G}{f T}{f A}{f T}{f T}{f C}{f G}{f T}{f A}{f T}{f T}{f C}{f G}{f T}{f A}{f T}{f C}{f T}{f C}{f T}{f C}{f T}{f C}{f C}{f T}{f C}{f T}{f C}{f C}{f T}{f C}{f C}{f$

MEPSSLELPADTVQRIAAELKCHPTDERVALHLDEEDKLRHFRECFYIPKIQDLPPVDLSLVNKDENAIYFLGNS LGLQPKMVKTYLEEELDKWAKIAAYGHEVGKRPWITGDESIVGLMKDIVGANEKEIALMNALTVNLHLLMLSFFK PTPKRYKILLEAKAFPSDHYAIESQLQLHGLNIEESMRMIKPREGEETLRIEDILEVIEKEGDSIAVILFSGVHF YTGQHFNIPAITKAGQAKGCYVGFDLAHAVGNVELYLHDWGVDFACWCSYKYLNAGAGGIAGAFIHEKHAHTIKP ALVGWFGHELSTRFKMDNKLQLIPGVCGFRISNPPILLVCSLHASLEIFKQATMKALRKKSVLLTGYLEYLIKHN YGKDKAATKKPVVNIITPSHVEERGCQLTITFSVPNKDVFQELEKRGVVCDKRNPNGIRVAPVPLYNSFHDVYKF TNLLTSILDSAETKN

GTGTACGGTCCGCAGCGGCAGGTGAAGTCTAGCAGAGGACGCGGCCAGGCGATTCGGTGAAGCGATTCCTGCAGG CGTTGGTTCCCCTCTTTGACCTGGTAAATGCAGGCTTTTATGCGAGAGGATTTGAATTTGTTGAAATGAGCAGTC GTAAATCAAAGAGTAACAGCTTAATTCACACAGAGTGCCTTTCACAGGTACAAAGAATTTTACGTGAAAGATTTT GTCGTCAGAGTCCACATAGTAACCTATTTGGAGTGCAAGTACAATACAAACACTTAAGTGAGCTGCTGAAAAGAA CTGCTCTCCATGGAGAGAGTAACTCTGTCCTTATTATCGGACCCCGAGGATCAGGAAAAACTATGTTAATAAATC AGATCAATGACAAAATCGCCCTAAAGGAAATCACAAGGCAGTTAAATCTGGAAAATGTAGTTGGAGATAAAGTTT TTGGAAGCTTTGCTGAAAACCTTTCATTTCTTCTGGAAGCTTTAAAAAAAGGTGACCGAACTAGCAGTTGCCCAG TGATCTTCATATTAGATGAATTTGATCTTTTTGCTCATCATAAAAACCAAACACTTCTCTATAATCTTTTTGACA TTTCTCAGTCTGCACAGACCCCAATAGCAGTTATTGGTCTTACATGTAGATTGGATATTTTGGAACTCTTAGAAA AAAGAGTGAAGTCAAGATTTTCTCACCGGCAGATACACTTAATGAATTCATTTGGTTTTCCACAGTATGTTAAAA TATTTAAAGAACAGTTATCTCTACCTGCAGAGTTTCCAGACAAGGTTTTTGCTGAGAAGTGGAATGAAAATGTTC AGTATCTCTCAGAAGATAGAAGTGTGCAAGAAGTACTACAGAAGCATTTCAATATCAGCAAAAACCTGCGGTCAT TACACATGCTATTGATGCTTGCTTTAAATCGAGTAACAGCATCGCACCCATTTATGACTGCCGTAGATCTAATGG AAGCAAGCCAACTGTGTAGCATGGACTCGAAAGCAAATATTGTACATGGTCTATCAGTCTTGGAAATCTGTCTTA TAATAGCAATGAAACATTTAAATGACATCTATGAGGAAGAGCCATTTAATTTTCAAATGGTCTATAATGAGTTTC AGAAGTTTGTTÇAAAGGAAAGCACATTCCGTTTATAATTTTGAAAAACCTGTTGTCATGAAGGCTTTTGAACACT TGCTTTTGGATAATACTCAAATTATGAATGCTCTGCAGAAATATCCCAACTGTCCTACAGATGTGAGGCAGTGGG AACGGAAAACTATTGTCCATTAACATGATATGCTAAACATTCTATAAACATTCTTGTATTTATGTGAGACTTGCC CATCTACTGTCTTGGCTGTCTTGCCTTTTAATCATGAACAGTTACATGATTTATAATTTCACTGATTGAGATT ACTITGTAAGTAGCTGTTCAGAAGAATAAAATATGACTGTTTTAGGGACTAGACCATGTGCTTTTTAACACTTA TATATATAATGGTCTATTTGAAGAGCTCACTTCAACCTAACAGCTAGATGTCTTTACAAACCTTAAACCAAAGGA GTAAAAAAAACAATGGTAAGCACTGAAGTATAATAAGTAACCTTTGGTACAGCAGGTTTGCTGCAGTGTTTTTTT CTGTCCACATGCAAATTTTGGATTCTATCCCAGACCCAGGTTTTCTAGTTCAGAAGACTAACCAGCTTAGTCAGA AGATGGTTCCATGGAAGAAAAAGGCCAAGGAGTTTGAAGATTTTTCTTCTAGACATCTCAAAAATGTGGTACTCAT ACCATCCACATCAGAATCCCTTGTAGGATTTTCTAAAATTACAGATTGTTGAGCCTACCATAGGTCAAAAGGACT GGAATTTTCCTTCTTAACAAGTATAGTCATGGCACCACGTAACATTTTGGTCAATGACATTGTATAAAGGGTGGT CTCATAAGATTATACCATATTTTTACTGTACCTTTTCTATGTCTAAATATACAAATGTTTTACCATTG

MSSRKSKSNSLIHTECLSQVQRILRERFCRQSPHSNLFGVQVQYKHLSELLKRTALHGESNSVLIIGPRGSGKTM LINHALKELMEIEEVSENVLQVHLNGLLQINDKIALKEITRQLNLENVVGDKVFGSFAENLSFLLEALKKGDRTS SCPVIFILDEFDLFAHHKNQTLLYNLFDISQSAQTPIAVIGLTCRLDILELLEKRVKSRFSHRQIHLMNSFGFPQ YVKIFKEQLSLPAEFPDKVFAEKWNENVQYLSEDRSVQEVLQKHFNISKNLRSLHMLLMLALNRVTASHPFMTAV DLMEASQLCSMDSKANIVHGLSVLEICLIIAMKHLNDIYEEEPFNFQMVYNEFQKFVQRKAHSVYNFEKPVVMKA FEHLQQLELIKPMERTSGNSQREYQLMKLLLDNTQIMNALQKYPNCPTDVRQWATSSLSWL

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MANVLCNRARLVSYLPGFCSLVKRVVNPKAFSTAGSSGSDESHVAAAPPDICSRTVWPDETMGPFGPQDQRFQLPGNIGFDCHLNGTASQKKSLVHKTLPDVLAEPLSSERHEFVMAQYVNEFQGNDAPVEQEINSAETYFESARVECAIQTCPELLRKDFESLFPEVANGKLMILTVTQKTKNDMTVWSEEVEIEREVLLEKFINGAKEICYALRAEGYWADFIDPSSGLAFFGPYTNNTLFETDERYRHLGFSVDDLGCCKVIRHSLWGTHVVVGSIFTNATPDSHIMKKLSGN

AACAGTAGCAGCAGTAGCAACTCAGGATGGGATCAGCTCAGCAAAACGAACCTCTATATCCGAGGACTGCCTCCC CACACCACCGACCAGGACCTGGTGAAGCTCTGTCAACCATATGGGAAAATAGTCTCCACAAAGGCAATTTTGGAT AAGACAACGAACAAATGCAAAGGTTATGGTTTTGTCGACTTTGACAGCCCTGCAGCAGCTCAAAAAGCTGTGTCT GCCCTGAAGGCCAGTGGGGTTCAAGCTCAAATGGCAAAGCAACAGGAACAAGATCCTACCAACCTCTACATTTCT AATTTGCCACTCTCCATGGATGAGCAAGAACTAGAAAATATGCTCAAACCATTTGGACAAGTTATTTCTACAAGG ATACTACGTGATTCCAGTGGTACAAGTCGTGGTGTTGGCTTTGCTAGGATGGAATCAACAGAAAAATGTGAAGCT GTTATTGGTCATTTTAATGGAAAATTTATTAAGACACCACCAGGAGTTTCTGCCCCCACAGAACCTTTATTGTGT GAAGGAGAGGTGAGACTTGCTGGAATGACACTTACTTACGACCCAACTACAGCTGCTATACAGAACGGATTTTAT CCTTCACCATACAGTATTGCTACAAACCGAATGATCACTCAAACTTCTATTACACCCTATATTGCATCTCTGTA TCTGCCTACCAGGTGCAAAGTCCTTCGTGGATGCAACCTCAACCATATATTCTACAGCACCCTGGTGCCGTGTTA ACTCCCTCAATGGAGCACACCATGTCACTACAGCCCGCATCAATGATCAGCCCTCTGGCCCAGCAGATGAGTCAT CTGTCACTAGGCAGCACCGGAACATACATGCCTGCAACGTCAGCTATGCAAGGAGCCTACTTGCCACAGTATGCA CATATGCAGACGACAGCGGTTCCTGTTGAGGAGGCAAGTGGTCAACAGCAGGTGGCTGTCGAGACGTCTAATGAC ${\tt CATTCTCCATATACCTTTCAACCTAATAAG} \underline{{\tt TAA}} {\tt CTGTGAGATGTACAGAAAGGTGTTCTTACATGAAGAAGGGTG}$ TGAAGGCTGAACAATCATGGATTTTTCTGATCAATTGTGCTTTAGGAAATTATTGACAGTTTTGCACAGGTTCTT GAAAACGTTATTTATAATGAAATCAACTAAAACTATTTTTGCTATAAGGTTCTATAAGGTGCATAAAACCCTTAAA

MAPPSPSTTSSNNNSSSSSNSGWDQLSKTNLYIRGLPPHTTDQDLVKLCQPYGKIVSTKAILDKTINKCKGYGFV DFDSPAAAQKAVSALKASGVQAQMAKQQEQDPTNLYISNLPLSMDEQELENMLKPFGQVISTRILRDSSGTSRGV GFARMESTEKCEAVIGHFNGKFIKTPPGVSAPTEPLLCKFADGGQKKRQNPNKYIPNGRPWHREGEVRLAGMTLT YDPTTAAIQNGFYPSPYSIATNRMITQTSITPYIASPVSAYQVQSPSWMQPQPYILQHPGAVLTPSMEHTMSLQP ASMISPLAQQMSHLSLGSTGTYMPATSAMQGAYLPQYAHMQTTAVPVEEASGQQQVAVETSNDHSPYTFQPNK

AGACTTGGAAACCCCAAAGTGTCCGCGACCCTGCACGGCAGCTCCCTTCCAGCTTCATGGGCAAAGTGTGGAAAC AGCAGATGTACCCTCAGTACGCCACCTACTATTACCCCCAGTATCTGCAAGCCAAGTTTGGAAGGCATTCGGGAA TACCAAGTGAAAAGGAAGAGTGAAGAACAGAAAAATGTTAGTGGGATGGCAAACACTGTGAACATTGCTGTTTCT AGTGGGCCAGAAAAATCAGTCTCTGGTCCCAGCCCCACCCCATCGCACCAGCACCACCACCAGCACCACCAGCAGTAA TAACAACAGTAGCAGCAGTAGCAACTCAGGATGGGATCAGCTCAGCAAAACGAACCTCTATATCCGAGGACTGCC TCCCCACACCACCACCAGGACCTGGTGAAGCTCTGTCAACCATATGGGAAAATAGTCTCCACAAAGGCAATTTT GGATAAGACAACGAACAAATGCAAAGGTTATGGTTTTGTCGACTTTGACAGCCCTGCAGCAGCTCAAAAAGCTGT GTCTGCCCTGAAGGCCAGTGGGGTTCAAGCTCAAATGGCAAAGCAACAGGAACAAGATCCTACCAACCTCTACAT TTCTAATTTGCCACTCTCCATGGATGAGCAAGAACTAGAAAATATGCTCAAACCATTTGGACAAGTTATTTCTAC AAGGATACTACGTGATTCCAGTGGTACAAGTCGTGGTGTTGGCTTTGCTAGGATGGAATCAACAGAAAAATGTGA AGCTGTTATTGGTCATTTTAATGGAAAATTTATTAAGACACCACCAGGAGTTTCTGCCCCCACAGAACCTTTATT TTATCCTTCACCATACAGTATTGCTACAAACCGAATGATCACTCAAACTTCTATTACACCCTATATTGCATCTCC TGTATCTGCCTACCAGGTGGCAAAGGAAACCAGAGAAAACAAGTATCGGGGCTCTGCTATCAAGGTGCAAAGTCC TTCGTGGATGCAACCTCAACCATATATTCTACAGCACCCTGGTGCCGTGTTAACTCCCTCAATGGAGCACCACCAT GTCACTACAGCCCGCATCAATGATCAGCCCTCTGGCCCAGCAGATGAGTCATCTGTCACTAGGCAGCACCGGAAC ATACATGCCTGCAACGTCAGCTATGCAAGGAGCCTACTTGCCACAGTATGCACATATGCAGACGACAGCGGTTCC TGTTGAGGAGGCAAGTGGTCAACAGCAGGTGGCTGTCGAGACGTCTAATGACCATTCTCCATATACCTTTCAACC TAATAAGTAACTGTGAGATGTACAGAAAGGTGTTCTTACATGAAGAAGGGTGTGAAGGCTGAACAATCATGGATT CAACTAAAACTATTTTTGCTATAAGTTCTATAAGGTGCATAAAACCCTTAAATTCATCTAGTAGCTGTTCCCCCG AACAGGTTTATTTTAGTAAAAAAAAAAAA

MAPPSPSTTSSNNNSSSSSNSGWDQLSKTNLYIRGLPPHTTDQDLVKLCQPYGKIVSTKAILDKTTNKCKGYGFV DFDSPAAAQKAVSALKASGVQAQMAKQQEQDPTNLYISNLPLSMDEQELENMLKPFGQVISTRILRDSSGTSRGV GFARMESTEKCEAVIGHFNGKFIKTPPGVSAPTEPLLCKFADGGQKKRQNPNKYIPNGRPWHREGEVRLAGMTLT YDPTTAAIQNGFYPSPYSIATNRMITQTSITPYIASPVSAYQVAKETRENKYRGSAIKVQSPSWMQPQPYILQHP GAVLTPSMEHTMSLQPASMISPLAQQMSHLSLGSTGTYMPATSAMQGAYLPQYAHMQTTAVPVEEASGQQQVAVE TSNDHSPYTFOPNK

GGCTAATGTAACATACTCTACCACTTGGTCTGAAGCCCAGCAGTATCTGATGGATAATCCAACTTTTGCAGAAGA TGAGGAGTTACAAAATATGGACAAAGAAGATGCATTAATTTGCTTTGAAGAACACATTCGGGCTTTAGAAAAGGA GGAAGAAGAAGAAAACAGAAGAGTTTGCTGAGAGAAAAGGAGACGACAGCGAAAAAAATAGGGAATCTTTCCAGAT TTCTGATATTAGATTCACTAATATGCTTGGTCAGCCTGGATCAACTGCACTTGATCTTTTCAAGTTTTATGTTGA GGATCTTAAAGCACGTTATCATGACGAGAAGAAGATAATAAAAGACATTCTAAAGGATAAAGGATTTGTAGTTGA AGTAAACACTACTTTTGAAGATTTTGTGGCGATAATCAGTTCAACTAAAAGATCAACTACATTAG<u>ATG</u>CTGGAAA AGATGAAACGAAAAGAATCTGCATTTAAGAGTATGTTAAAACAAGCTGCTCCTCCGATAGAATTGGATGCTGTCT TATTTAAAGATTTTATGCATGTGCTTGAGCATGAATGTCAGCATCATCATCAAAGAACAAGAAACATTCTAAGA AATCTAAAAAACATCATAGGAAACGTTCCCGCTCTCGATCGGGGTCAGATTCAGATGATGATGATAGCCATTCAA AGAAAAAAGACAGCGATCAGAGTCTCGTTCTGCTTCAGAACATTCTTCTAGTGCAGAGTCTGAGAGAAGTTATA AAAAGTCAAAAAAGCATAAGAAGAAAAGTAAGAAGAGGAGACATAAATCTGACTCTCCAGAATCCGATGCTGAGC GAGAGAAGGATAAAAAAGAAAAAGATCGGGAAAGTGAAAAAGACAGAACTAGACAAAGATCAGAATCAAAACACA AATCGCCTAAGAAAAAGACTGGAAAGGATTCTGGTAATTGGGATACTTCTGGCAGCGAACTGAGTGAAGGGGAAT $\tt TGGAAAAGCGCAGAAGAACCCTTTTGGAGCAACTGGATGATGATCAA{\color{red}{\textbf{TAAA}}} A \texttt{TTATACCAAATATATGTTTACAGT}$ ATGATTTAAAGTCTGATTCAGACCAGGGACTCTATTTTAAGTTCAACTGAAATAACACTGGGTTTTAATTATATC ACAGGAAAAAAAAGTGCATTTAAGTATTGTTATCGTGGACTTTATAAAAGCAAAGGAAATTGAAAGTAACTTTT GATTCTGTATCAAGAATCATATTTTCATACAGTCATAACTGTCTTTCTGTGACCCTTTCACAGGGCACTGTAGGA TGGATTAAAGGTGGCAATTTACTGATAACTGCAGATGTCTCTACTTTGTTCTAAAATCTAAGTCATGAGGTGATT ACCAGCAACTGATAAAAATTGCTTTTTTGTGCGCTACCCAACTGGTTAAAGCCAATGTGATCTTTTATGGTGAAA CTCCTAAGAAACAGGTGGTTTTGCTGGAAACTTGGTAGACCCTTAATTATAGTGGTGCTAATGAGCACTACTGTA ATATAAAGCCACCATTATTTTTTATCAAACATCTGAATACATTTTACAAAGGCTATTGTGAGGGCATTATTTTGA TATTGAGGAAGTATTTTGCCTTCCCTACTCACTGAGAAGTATTGACTTCGTGGTACACATTCTAAAGCATTTCTG ATTTGAATATTTTTGTACATTTTTATCAATTATTAAACCTTCTCTTCTAGTG

MLEISNWLSILLEKAEAREREREKEEARKMKRKESAFKSMLKQAAPPIELDAVWEDIRERFVKEPAFEDITLESE RKRIFKDFMHVLEHECQHHHSKNKKHSKKSKKHHRKRSRSRSGSDSDDDDSHSKKKRQRSESRSASEHSSSAESE RSYKKSKKHKKKSKKRRHKSDSPESDAEREKDKKEKDRESEKDRTRQRSESKHKSPKKKTGKDSGNWDTSGSELS EGELEKRRTLLEQLDDDQ

 $\tt CCGCTC\underline{G}CCCTCTGCTCCGGGCTGCCCACTGCCCTCCTACGGTCCACCATGGCCCTGCTGCACTCCGGC$ CGCGTCCTCCCCGGGATCGCCGCCGTTCCACCCGGGCCTCGCCGCGCGCCTCTGCCAGAGCCAGCTCCTGG TGGACCCATGTGGAAATGGGACCTCCAGATCCCATTCTGGGAGTCACTGAAGCCTTTAAGAGGGACACCAATAGC AAAAAGATGAATCTGGGAGTTGGTGCCTACCGGGATGATAACGGAAAGCCTTACGTGCTGCCTAGCGTCCGCAAG GCAGAGGCCCAGATTGCCGCAAAAAATTTGGACAAGGAATACCTGCCCATTGGGGGACTGGCTGAATTTTGCAAG GCATCTGCAGAACTAGCCCTGGGTGAGAACAGCGAAGTCTTGAAGAGTGGCCGGTTTGTCACTGTGCAGACCATT ${\tt TCTGGAACTGGAGCCTTAAGGATCGGAGCCAGTTTTCTGCAAAGATTTTTTAAGTTCAGCCGAGATGTCTTTCTG}$ CCCAAACCAACCTGGGGAAACCACACCCATCTTCAGGGATGCTGGCATGCAGCTACAAGGTTATCGGTATTAT GACCCCAAGACTTGCGGTTTTGACTTCACAGGCGCTGTGGAGGATATTTCAAAAATACCAGAGCAGAGTGTTCTT GTGAAGAAAGGAATCTCTTTGCGTTCTTTGACATGGCCTACCAAGGCTTTGCCAGTGGTGATGGTGATAAGGAT GCCTGGGCTGTGCGCCACTTCATCGAACAGGGCATTAATGTTTGTCTCTGCCAATCATATGCCAAGAACATGGGC TTATATGGTGAGCGTGTAGGAGCCTTCACTATGGTCTGCAAAGATGCGGATGAAGCCAAAAGGGTAGAGTCACAG TTGAAGATCTTGATCCGTCCCATGTATTCCAACCCTCCCCTCAATGGGGCCCGGATTGCTGCCATTCTGAAC CTGGTCTCCAACCTCAAGAAGGAGGGTTCCACCCACAATTGGCAACACATCACCGACCAAATTGGCATGTTCTGT TTCACAGGGCTAAAGCCTGAACAGGTGGAGCGGCTGATCAAGGAGTTCTCCATCTACATGACAAAAGATGGCCGC ATCTCTGTGGCAGGGGTCACCTCCAGCAACGTGGGCTACCTTGCCCATGCCATTCACCAGGTCACCAAGTAATGT CCCTGGTGCGAGGAAACAGAGACAACCTTTCTGTCTTCAGCCTCTGCTATTGAGAGCTTCACACAGACAATGAGA GAGGGTGGATGGTGAGTGGATCATTTCTTTCAGCCACAGTGTGTAACACTCAGCATTTGAATGTTTCTCAGA CTTTTTTCTCCAACTTTTCTCAAAGAGTTTACATGTGCAAGAAAGTCATCGCACCAAAAAACCTGTCAATTATGC CATTGCAATATTTCAGAAGCTTTAACTGAAGTGTCAGGTTCCTCGTGAGAAACAGCACACGTTAGAGGCTTTGAG GCACTGCAGAAATGATGTTTTATGAAAACCAATGAGGCTGCTGCCACTCCAGCAAGGGAAATAATGCAGTTTCCT GTCTTATTTAAGAAAAAGAGAAGGCTCTCTTTTCTCCCTTGTCATTGCCGTTCTTTTCCTTACACGCAAAGATTT GAATGAAGAACATAATTTTCTGCTGATGCCGTACCCTCACCCTTTTCAGCAAAGAATAGTGGAGAGTAGGAAAACT GTACTTTATCTCGGCATCCTCTTGAATGATAGTGCAAGTTTCTCCAGTTGGGATGTTGTCTCTGCCCGGTTGGAC CTCCTCCCTTTGTTGAATGTGGTGTGCAGCCTCTCATCTCACACTGTGAGTCCAGCGGCGCAGGGTGGTACCAGG AAAGAGGATATTCTAGGCTTTGCGTGCTGCTAGCTGGGTTCAGGCTTCACCCACTGGAAAGAACCACCATCTGCT CTAACCATGTAGACTTATTGCGGCCTGGTTTCTCTGTTACAATAAAATTACTGTAGACCC

PCT/US2003/028547

960/6881 FIGURE 894

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TTCTCTGAACGCTCACTTCCGAGGAGACGCCGACGATGAAGACACCGTGGAAGGTTCTTCTGGGACTGCTGGGTG CTGCTGCGCTTGTCACCATCATCACCGTGCCCGTGGTTCTGCTGAACAAAGGCACAGATGATGCTACAGCTGACA GTCGCAAAACTTACACTCTAACTGATTACTTAAAAAATACTTATAGACTGAAGTTATACTCCTTAAGATGGATTT CAGATCATGAATATCTCTACAAACAAGAAAATAATATCTTGGTATTCAATGCTGAATATGGAAACAGCTCAGTTT TCTTGGAGAACAGTACATTTGATGAGTTTGGACATTCTATCAATGATTATTCAATATCTCCTGATGGGCAGTTTA TTCTCTTAGAATACAACTACGTGAAGCAATGGAGGCATTCCTACACAGCTTCATATGACATTTATGATTTAAATA AAAGGCAGCTGATTACAGAAGAGGGATTCCAAACAACACAGTGGGTCACATGGTCACCAGTGGGTCATAAAT TGGCATATGTTTGGAACAATGACATTTATGTTAAAATTGAACCAAATTTACCAAGTTACAGAATCACATGGACGG GGAAAGAAGATATAATATAATGGAATAACTGACTGGGTTTATGAAGAGGAAGTCTTCAGTGCCTACTCTGCTC TGTGGTGGTCTCCAAACGGCACTTTTTTAGCATATGCCCAATTTAACGACACAGAAGTCCCACTTATTGAATACT CCTTCTACTCTGATGAGTCACTGCAGTACCCAAAGACTGTACGGGTTCCATATCCAAAGGCAGGAGCTGTGAATC CAACTGTAAAGTTCTTTGTTGTAAATACAGACTCTCTCAGCTCAGTCACCAATGCAACTTCCATACAAATCACTG AGTGGCTCAGGAGGATTCAGAACTATTCGGTCATGGATATTTGTGACTATGATGAATCCAGTGGAAGATGGAACT TTACCCTTGATGGTAATAGCTTCTACAAGATCATCAGCAATGAAGAAGGTTACAGACACATTTGCTATTTCCAAA TAGATAAAAAAGACTGCACATTTATTACAAAAGGCACCTGGGAAGTCATCGGGATAGAAGCTCTAACCAGTGATT ATACAAAAGTGACATGCCTCAGTTGTGAGCTGAATCCGGAAAGGTGTCAGTACTATTCTGTGTCATTCAGTAAAG AGGCGAAGTATTATCAGCTGAGATGTTCCGGTCCTGGTCTGCCCCTCTATACTCTACACAGCAGCGTGAATGATA AAGGGCTGAGAGTCCTGGAAGACAATTCAGCTTTGGATAAAATGCTGCAGAATGTCCAGATGCCCTCCAAAAAAC TGGACTTCATTATTTTGAATGAAACAAAATTTTGGTATCAGATGATCTTGCCTCCTCATTTTGATAAATCCAAGA AATATCCTCTACTATTAGATGTGTATGCAGGCCCATGTAGTCAAAAAGCAGACACTGTCTTCAGACTGAACTGGG AGATCATGCATGCAATCAACAGAAGACTGGGAACATTTGAAGTTGAAGATCAAATTGAAGCAGCCAGACAATTTT CAAAAATGGGATTTGTGGACAACAAACGAATTGCAATTTGGGGCTGGTCATATGGAGGGTACGTAACCTCAATGG TCCTGGGATCGGGAAGTGGCGTGTTCAAGTGTGGAATAGCCGTGGCGCCTGTATCCCGGTGGGAGTACTATGACT CAGTGTACACAGAACGTTACATGGGTCTCCCAACTCCAGAAGACAACCTTGACCATTACAGAAATTCAACAGTCA TGAGCAGAGCTGAAAATTTTAAACAAGTTGAGTACCTCCTTATTCATGGAACAGCAGATGATAACGTTCACTTTC AGCAGTCAGCTCAGATCTCCAAAGCCCTGGTCGATGTTGGAGTGGATTTCCAGGCAATGTGGTATACTGATGAAG ACCATGGAATAGCTAGCAGCACACCAACATATATATACCCACATGAGCCACTTCATAAAACAATGTTTCT $\texttt{CTTTACCT} \underline{\textbf{TAG}} \texttt{CACCTCAAAATACCATGCCATTTAAAGCTTATTAAAACTCATTTTTGTTTTCATTATCTCAAAA}$ CTGCACTGTCAAGATGATGATGTTTTAAAATACACACTCAAATCAAGAAACTTAAGGTTACCTTTGTTCCCAA ATTTCATACCTATCATCTTAAGTAGGGACTTCTGTCTTCACAACAGATTATTACCTTACAGAAGTTTGAATTATC CGGTCGGGTTTTATTGTTTAAAATCATTTCTGCATCAGCTGCTGAAACAACAAATAGGAATTGTTTTTATGGAGG CTTTGCATAGATTCCCTGAGCAGGATTTTAATCTTTTTCTAACTGGACTGGTTCAAATGTTGTTCTCTTTTAA AGGGATGGCAAGATGTGGGCAGTGATGTCACTAGGGCAGGGACAGGATAAGAGGGATTAGGGAGAAGATAGCA GGGCATGGCTGGGAACCCAAGTCCAAGCATACCAACACGAGCAGGCTACTGTCAGCTCCCCTCGGAGAAGAGCTG TTCACAGCCAGACTGGCACAGTTTTCTGAGAAAGACTATTCAAACAGTCTCAGGAAATCAAATATGCAAAGCACT GACTTCTAAGTAAAACCACAGCAGTTGAAAAGACTCCAAAGAAATGTAAGGGAAACTGCCAGCAACGCAGGCCCC CAGGTGCCAGTTATGGCTATAGGTGCTACAAAAACACAGCAAGGGTGATGGGAAAGCATTGTAAATGTGCTTTTA AAAAAAATACTGATGTTCCTAGTGAAAGAGGCAGCTTGAAACTGAGATGTGAACACATCAGCTTGCCCTGTTAA AAGATGAAAATATTTGTATCACAAATCTTAACTTGAAGGAGTCCTTGCATCAATTTTTCTTATTTCATTTCTTTG AGTGTCTTAATTAAAAGAATATTTTAACTTCCTTGGACTCATTTTAAAAAAATGGAACATAAAATACAATGTTATG TATTATTATTCCCATTCTACATACTATGGAATTTCTCCCAGTCATTTAATAAATGTGCCTTCATTTTTTC

MKTPWKVLLGLLGAAALVTIITVPVVLLNKGTDDATADSRKTYTLTDYLKNTYRLKLYSLRWISDHEYLYKQENN ILVFNAEYGNSVFLENSTFDEFGHSINDYSISPDGQFILLEYNYVKQWRHSYTASYDIYDLNKRQLITEERIPN NTQWVTWSPVGHKLAYVWNNDIYVKIEPNLPSYRITWTGKEDIIYNGITDWVYEEEVFSAYSALWWSPNGTFLAY AQFNDTEVPLIEYSFYSDESLQYPKTVRVPYPKAGAVNPTVKFFVVNTDSLSSVTNATSIQITAPASMLIGDHYL CDVTWATQERISLQWLRRIQNYSVMDICDYDESSGRWNCLVARQHIEMSTTGWVGRFRPSEPHFTLDGNSFYKII SNEEGYRHICYFQIDKKDCTFITKGTWEVIGIEALTSDYLYYISNEYKGMPGGRNLYKIQLSDYTKVTCLSCELN PERCQYYSVSFSKEAKYYQLRCSGPGLPLYTLHSSVNDKGLRVLEDNSALDKMLQNVQMPSKKLDFIILNETKFW YQMILPPHFDKSKKYPLLLDVYAGPCSQKADTVFRLNWATYLASTENIIVASFDGRGSGYQGDKIMHAINRRLGT FEVEDQIEAARQFSKMGFVDNKRIAIWGWSYGGYVTSMVLGSGSGVFKCGIAVAPVSRWEYYDSVYTERYMGLPT PEDNLDHYRNSTVMSRAENFKQVEYLLIHGTADDNVHFQQSAQISKALVDVGVDFQAMWYTDEDHGIASSTAHQH IYTHMSHFIKQCFSLP

GTTTGAAATCGGAAAGTTGGCGGGGCTGCGGGAGCTGAGCCTAGAGTCCGGCTGTTGGCTAGAGTGGGCGCGGAT ·CTGGTGTGGGGAAGGCGGGGGACTCAGGCCTGCCGAAGCATTGTCCTACATA<u>ATG</u>GTAGAGGACGAACTGG CACTTTCGATAAAAGCATAAATGAATTTTGGAATAAATTCAAAAGTACGGACACCTCCTGTCAGATGGCGGGAC AGGAAGAATATTCTAGGAAGAAGGAAACTATTTCTACTGCTAATAAAGCGAATGCAGAGAGGTTGAAAAGGCTGC AGAAATCTGCAGACTTGTATAAAGATCGACTTGGACTAGAAATTCGAAAAATTTATGGTGAGAAATTGCAGTTTA TTTTCACTAATATTGACCCTAAGAATCCTGAGAGCCCATTTATGTTTTCCTTACATCTCAATGAAGCAAGGGACT ATGAAGTGTCAGATAGTGCCCCTCATCTTGAGGGCCTAGCAGAATTTCAAGAGAATGTAAGGAAGACCAACAATT $\tt TTTCAGCTTTTCTTGCCAATGTTCGGAAAGCTTTTACTGCCACGGTTTATAAT \underline{TAA} CATACAAATAGTGTATATA$ ATGTTCCCCTTCCTGTGTCCATGTGTTCTCATTGTTCAATTCCCACCTAGGAGTGAGAATATGTGGTGTTTGGTT TTTTGTCCTTTCGATAGTTTGCTGAGAATGATGGTTTCCAGCTTCATCCATGTTCCTACAAAGGACATGAACTCA TCCTTTTTTATGGCTGCATAGTATTCCATGGTGTATATGTGCCACATTTTCTTAATCCAGTCTATCATTGTTGGA CATTTGGGTTGGTTCCAAGTCTTTGCTATTGTGAATAGTGCCGAAATAAACATACGTGTGCATGTGTCCCAAAA ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

MVEDELALFDKSINEFWNKFKSTDTSCQMAGLRDTYKDSIKAFAEKLSVKLKEEERMVEMFLEYQNQISRQNKLI QEKKDNLLKLIAEVKGKKQELEVLTANIQDLKEEYSRKKETISTANKANAERLKRLQKSADLYKDRLGLEIRKIY GEKLQFIFTNIDPKNPESPFMFSLHLNEARDYEVSDSAPHLEGLAEFQENVRKTNNFSAFLANVRKAFTATVYN

AAGCACAGGCCACCACTCTGCCCTGGTCCACACAAGCTCCGGTAGCCCATGGAGCCCTGGCCTCTCCTCCTGCTC TTTAGCCTTTGCTCAGCTGGCCTCGTCCTGGGCTCCGAACATGAGACCCGTCTGGTGGCAAAGCTATTTAAAGAC TACAGCAGCGTGGTGCGGCCAGTGGAAGACCACCGCCAGGTCGTGGAGGTCACCGTGGGCCTGCAGCTGATACAG CTCATCAATGTGGATGAAGTAAATCAGATCGTGACAACCAATGTGCGTCTGAAACAGCAATGGGTGGATTACAAC CTAAAATGGAATCCAGATGACTATGGCGGTGTGAAAAAAATTCACATTCCTTCAGAAAAGATCTGGCGCCCAGAC CTTGTTCTCTATAACAATGCAGATGGTGACTTTGCTATTGTCAAGTTCACCAAAGTGCTCCTGCAGTACACTGGC CACATCACGTGGACACCTCCAGCCATCTTTAAAAGCTACTGTGAGATCATCGTCACCCACTTTCCCTTTGATGAA CAGAACTGCAGCATGAAGCTGGGCACCTGGACCTACGACGCTCTGTCGTGGCCATCAACCCGGAAAGCGACCAG ${\tt CCAGACCTGAGCAACTTCATGGAGAGCGGGGAGTGGGTGATCAAGGAGTCCCGGGGCTGGAAGCACTCCGTGACC}$ TATTCCTGCTGCCCCGACACCCCTACCTGGACATCACCTACCACTTCGTCATGCAGCGCCTGCCCCTCTACTTC ATCGTCAACGTCATCCCCTGCCTGCTCTTCTCCTTCTTAACTGGCCTGGTATTCTACCTGCCCACAGACTCA GGGGAGAAGATGACTCTGAGCATCTCTGTCTTACTGTCTTTGACTGTTTCCTTCTGGTCATCGTGGAGCTGATC CCCTCCACGTCCAGTGCTGTGCCCTTGATTGGAAAATACATGCTGTTCACCATGGTGTTCGTCATTGCCTCCATC GTTTTTATCGACACTATCCCAAATATCATGTTTTTCTCCACAATGAAAAGACCATCCAGAGAAAAAGCCAAGACAAA AAGATTTTTACAGAAGACATTGATATCTCTGACATTTCTGGAAAGCCAGGGCCTCCACCCATGGGCTTCCACTCT CCCCTGATCAAACACCCCGAGGTGAAAAGTGCCATCGAGGGCATCAAGTACATCGCAGAGACCATGAAGTCAGAC CAGGAGTCTAACAATGCGGCGGCAGAGTGGAAGTACGTTGCAATGGTGATGGACCACATACTCCTCGGAGTCTTC ATGCTTGTTTGCATCATCGGAACCCTAGCCGTGTTTGCAGGTCGACTCATTGAATTAAATCAGCAAGGA<u>TGA</u>GCA TGCTCCACTCGCACTTATCAAACGTGTTATATTCCATACTTATTATTGATGATAAGATTTACCTTTATGTAAGTT TATGGCCTTGAAGTGTTTTCATATTGCTTCTCCCTTTAGTTCTGCTGTCTCCCTGAAGAGTGAACCCTCTTTAGT AAATGAAACTAATCACT

MEPWPLLLLFSLCSAGLVLGSEHETRLVAKLFKDYSSVVRPVEDHRQVVEVTVGLQLIQLINVDEVNQIVTTNVR LKQQWVDYNLKWNPDDYGGVKKIHIPSEKIWRPDLVLYNNADGDFAIVKFTKVLLQYTGHITWTPPAIFKSYCEI IVTHFPFDEQNCSMKLGTWTYDGSVVAINPESDQPDLSNFMESGEWVIKESRGWKHSVTYSCCPDTPYLDITYHF VMQRLPLYFIVNVIIPCLLFSFLTGLVFYLPTDSGEKMTLSISVLLSLTVFLLVIVELIPSTSSAVPLIGKYMLF TMVFVIASIIITVIVINTHHRSPSTHVMPNWVRKVFIDTIPNIMFFSTMKRPSREKQDKKIFTEDIDISDISGKP GPPPMGFHSPLIKHPEVKSAIEGIKYIAETMKSDQESNNAAAEWKYVAMVMDHILLGVFMLVCIIGTLAVFAGRL IELNQQG

 ${\tt MARTKQTARKSTGGKAPRKQLATKAARKSAPSTGGVKKPHRYRPGTVALREIRRYQKSTELLIRKLPFQRLVREIRQDFKTDLRFQSAAIGALQEASEAYLVGLFEDTNLCAIHAKRVTIMPKDIQLARRIRGERA$

CAGCCGTTGAGGGGACGGCCTGCGTTCTCCTCCTCCTCCCCGCCTCCAGCTGCCGGCAGGACCTTTCTCTC GCTGCCGCTGGGACCCCGTGTCATCGCCCAGGCCGAGCACGATGCCCCCTAAAAAAGGGAGGTGATGGAATTAAAC CACCCCAATCATTGGAAGATTTGGAACCTCACTGAAAATTGGTATTGTTGGATTGCCAAATGTTGGGAAATCTA CTTTCTTCAATGTGTTAACCAATAGTCAGGCTTCAGCAGAAAACTTCCCGTTCTGCACTATTGATCCTAATGAGA TTCTAAATGTGGTGGATATTGCTGGCCTTGTGAAAGGAGCTCACAATGGGCAGGCCTGGGGAATGCTTTTTAT GAAGTGTAGATCCTATTCGAGATATAGAAATAATACATGAAGAGCTTCAGCTTAAAGATGAGGAAATGATTGGGC GCAAAGTAAAATCCTGGGTTATAGATCAAAAGAAACCTGTTCGCTTCTATCATGATTGGAATGACAAAGAGATTG AAGTGTTGAATAAACACTTATTTTTGACTTCAAAACCAATGGTCTACTTGGTTAATCTTTCTGAAAAAGACTACA CTTTTAGTGGGGCCTTGGAACTCAAGTTGCAAGAATTGAGTGCTGAGGAGAGACAGAAGTATCTGGAAGCGAACA TGACACAAAGTGCTTTGCCAAAGATCATTAAGGCTGGGTTTGCAGCACTCCAACTAGAATACTTTTTCACTGCAG GCCCAGATGAAGTGCGTGCATGGACCATCAGGAAAGGGACTAAGGCTCCTCAGGCTGCAGGAAAGATTCACACAG ATTTTGAAAAGGGATTCATTATGGCTGAAGTAATGAAATACGAAGATTTTAAAGAGGAAGGTTCTGAAAATGCAG TCAAGGCTGCTGGAAAGTACAGACAACAAGGCAGAAATTATATTGTTGAAGATGGAGATATTATCTTCTTCAAAT TTAACACCCTCAACAACCGAAGAAGAAATAAAATTTAGTTATTGCTCAGATAAACATACAACTTCCAAAAGGCA TCTGATTTTTAAAAATTAAAATTTCTGAAAACCAATGCGACAAATAAAGTTGGGGAGATGGGAATCTTTGACAA TGTGAACAGCTTTGCTTTTCACGTGATTAAGACCCTACTCCAAATTGTAGAAGCTTTTCAGGAACCATATTACTC TCATGATACTTCATTAATCTCCATCATGTATGCCAAGCCTGACACATTTGACAGTGAGGACAATGTGGCTTGCTC CTTTTTGAATCTACAGATAATGCATGTTTTACAGTACTCCAGATGTCTACACTCAATAAAACATTTGACAAAACC

MPPKKGGDGIKPPPIIGRFGTSLKIGIVGLPNVGKSTFFNVLTNSQASAENFPFCTIDPNESRVPVPDERFDFLC QYHKPASKIPAFLNVVDIAGLVKGAHNGQGLGNAFLSHISACDGIFHLTRAFEDDDITHVEGSVDPIRDIEIIHE ELQLKDEEMIGPIIDKLEKVAVRGGDKKLKPEYDIMCKVKSWVIDQKKPVRFYHDWNDKEIEVLNKHLFLTSKPM VYLVNLSEKDYIRKKNKWLIKIKEWVDKYDPGALVIPFSGALELKLQELSAEERQKYLEANMTQSALPKIIKAGF AALQLEYFFTAGPDEVRAWTIRKGTKAPQAAGKIHTDFEKGFIMAEVMKYEDFKEEGSENAVKAAGKYRQQGRNY IVEDGDIIFFKFNTPQQPKKK

 $\verb|CTGCCAGCCGCGCTGCTGCTGCTGCTGTGGGACCGCTGACCGCGGCTGCTCCGCTCTCCCCGCTCCA| \\$ AGCGCCGATCTGGGCACCCGCCACCAGCATGGACGCTCGCCGCGTGCCGCAGAAAGATCTCAGAGTAAAGAAGAA CTTAAAGAAATTCAGATATGTGAAGTTGATTTCCATGGAGACCTCGTCATCCTCTGATGACAGTTGTGACAGCTT TGCTTCTGATAATTTTGCAAACACGAAACCTAAATTCAGGTCAGATATCAGTGAAGAACTGGCAAGTGTTTTTTA TGAGGACTCTGATAATGAATCTTTCTGCGGCTTTTCAGAAAGTGAGGTGCAAGATGTATTAGACCATTGTGGATT TTTACAGAAACCAAGGCCAGATGTCACTAACGAACTGGCCGGTATTTTTCATGCCGACTCTGACGATGAATCATT AAAAGCAGAGTCCCGCCAGCCCTCAGAGAATTCTGTGACTGATTCCAACTCCGATTCAGAAGATGAAAGTGGAAT GAATTTTTTGGAGAAAAGGGCTTTAAATATAAAGCAAAACAAAGCAATGCTTGCAAAACTCATGTCTGAATTAGA AAGCTTCCCTGGCTCGTTCCGTGGAAGACATCCCCTCCCAGGCTCCGACTCACAATCAAGGAGACCGCGAAGGCG TACATTCCCGGGTGTTGCTTCCAGGAGAACCCTGAACGGAGAGCTCGTCCTCTTACCAGGTCAAGGTCCCGGAT GACCGTGGATGGCTACATGAATGAAGATGACCTGCCCAGAAGCCGTCGCTCCAGATCATCCGTGACCCTTCCGCA TATAATTCGCCCAGTGGAAGAAATTACAGAGGAGGAGTTGGAGAACGTCTGCAGCAATTCTCGAGAAGAAGATATA AGACTGCTGGGGCGTTCGAGGCCAGTTCTGTGGCCCCTGCCTTCGAAACCGTTATGGTGAAGAGGTCAGGGATGC TCTGCTGGATCCGAACTGCCATTGCCCGCCTTGTCGAGGAATCTGCAACTGCAGTTTCTGCCGGCAGCGAGATGG ACGGTGTGCGACTGGGGTCCTTGTGTATTTAGCCAAATATCATGGCTTTGGGAATGTGCATGCCTACTTGAAAAG TTGTAAAAGTTTCCAATTTTTTCACTGAAACCTGAGTTAAAAATCTTGATGATCAGCCTGTTTCATAAGAAACTC CAATCAAGTTAATCTTAGCAGACATGTGTTTCTGGAGCATCACAGAAGGTATATTGCTAGTTACACTTTGCCCTC CTGCAGTTTCTCTCTGCTCCCAACCCCCATCTCATAGCATCCCCCTCTATTTCCAATGCTCCTCTCCAACCGCT ACTTGTTTACACAAAAACGAGTATGATTTAGCATTCATACTAGTTGAAATTTTTAATAGAATCAAGGCACAAAAG TCTTAAAACCATGTGGAAAAATTAGGTAATTATTGCAGATTGATGTCTCTCAATCCCATGTATTGCGCTTATGTT ACAAGTTGTTGTCACAGTTGAGACTTAATTTCTCCTAATTTCTTCTGCCCGAAGGGTAAGTGGTGCGTCCAGCTT TATGAGTAAGCTGATTTGAATTTTCAGTATAAAACTTTAGTATAATTGTAGTTTGCAAAGTTTATTTCAGTTCAC ATGTAAGGTATTGCAAATAAATTCTTGGACAATTTTGTATGGAAACTTGATATTAAAAACTAGTCTGTTGTTCTT TGCAGTTTCTTGTAAATTTATAAACCAGGCACAAGGTTCAAGTTTAGATTTTAAGCACTTTTATAACAATGATAA GTGCCTTTTTGGAGATGTAACTTTTAGCAGTTTGTTAACCTGACATCTCTGCCAGTCTAGTTTCTGGGCAGGTTT ${\tt CCTGTGTCAGTATTCCCCCTCCTCTTTGCATTAATCAAGGTATTTGGTAGAGGTGGAATCTAAGTGTTTGTATGT}$ CCAATTTACTTGCATATGTAAACCATTGCTGTGCTATTCAATGTTTGATGCATAATTTGGACCTTGAATCGATAAG

MDARRVPQKDLRVKKNLKKFRYVKLISMETSSSSDDSCDSFASDNFANTKPKFRSDISEELASVFYEDSDNESFC GFSESEVQDVLDHCGFLQKPRPDVTNELAGIFHADSDDESFCGFSESEIQDGMRLQSVREGCRTRSQCRHSGPLR VAMKFPARSTRGATNKKAESRQPSENSVTDSNSDSEDESGMNFLEKRALNIKQNKAMLAKLMSELESFPGSFRGR HPLPGSDSQSRRPRRTFPGVASRRNPERRARPLTRSRSRILGSLDALPMEEEEEEDKYMLVRKRKTVDGYMNED DLPRSRRSRSSVTLPHIIRPVEEITEEELENVCSNSREKIYNRSLGSTCHQCRQKTIDTKTNCRNPDCWGVRGQF CGPCLRNRYGEEVRDALLDPNWHCPPCRGICNCSFCRQRDGRCATGVLVYLAKYHGFGNVHAYLKSLKQEFEMQA

 ${\tt MAEVEQKKKRTFRKFTYRGVDLDQLLDMSYEQLEQPMQLYSARQRRRLNRGLRRKQHSLLKRLRKAKKEAPPMEK} \\ {\tt QEVVKTHLRDMIILPEMVGSMVGVYNGKTFTYKPVKHGRPGIGATHSSRFIPLK} \\$

 $\verb|CTTTTATGTTAGATGAGGAAGGGGATACCCAAACAGAGGAAACCCGGCCTTCAGAAACAAAAGAAGTGGAGCCAG|\\$ AGCCAACTGAGGACAAAGATTTGGAAGCTGATGAAGAGGACACTAGGAAAAAAGATGCTTCTGATGATCTAGATG GTGTAAAGGATCTTAAGATTGAAAGTGATGTTCAAGAACCAACTGAACCAGAGGATGACCTTGACATTATGCTTG GCAATAAAAAGAAGAAAAAGAAGAATGTTAAGTTCCCAGATGAGGATGAAGCTCTAGAAGATGAAGACAACAAAA AGCTGCTGAATCGAGTGTTCAACATCATGAGGGAAAAGAATCCAGATATGGTTGCTGGGGAGAAAAGGAAATTTG TCATGAAACCTCCACAAGTCGTCCGAGTAGGAACCAAGAAAACTTCTTTTGTCAACTTTACAGATATCTGTAAAC TTGGTTCTATAGATGGTAATAACCAACTTGTAATCAAAGGAAGATTCCAACAGAAACAGATAGAAAATGTCTTGA GAAGATATATCAAGGAGTATGTCACTTGTCACACATGCCGATCACCGGACACAATCCTGCAGAAGGACATGCGAC TCTATTTCCTACAGTGCGAAACTTGTCATTCTAGATGTTCTGTTGCCATTATCAAAATTGGCTTCCAGGCTGTCA TGGGCAAGCGAGCACAGCTCCGTGCCAAAGCTAACTAATTTGCTAATCACTGATTTTGCAAAGCTTGTTGTGGAG ATGTGGCTGGACAGGTTTGCCATCAGAGTGGATATACCATTGTATTAAAAACAAGATAAAAAAGCTGCCAAGATT $\tt TTTAACACCTGTCAGAGAAACGTGATATGGGGTAAGGAGGTGCTTTTTTAAAATAGTTCATAGACTTCTGTAAAA$ TGCAAGATAAATTAAAGTTATTATAACAGTGA

PCT/US2003/028547

977/6881 FIGURE 911

AAGAAGAACCCTTTTATGTTAGATGAGGAAGGGGATACCCAAACAGAGGAAACCCGGCCTTCAGAAACAAAAGAA GTGGAGCCAGAGCCAACTGAGGACAAAGATTTGGAAGCTGATGAAGAGGACACTAGGAAAAAAGATGCTTCTGAT GCTGAAGAAGGTGTAAAGGATCTTAAGATTGAAAGTGATGTTCAAGAACCAACTGAACCAGAGGATGACCTTGAC ATTATGCTTGGCAATAAAAAGAAGAAAAGAAGAATGTTAAGTTCCCAGATGAGGATGAAGCTCTAGAAGATGAA GACAACAAAAAGATGATGGTATCTCATTCAGTAATCAGACAGGCCCTGCTTGGGCAGGCTCAGAAAGAGACTAC ACATACGAGGAGCTGCTGAATCGAGTGTTCAACATCATGAGGGAAAAGAATCCAGATATGGTTGCTGGGGAGAAA AGGAAATTTGTCATGAAACCTCCACAAGTCGTCCGAGTAGGAACCAAGAAAACTTCTTTTGTCAACTTTACAGAT ATCTGTAAACTATTACATCGTCAACCCAAACATCTCCTTGCATTTTTATTGGCTGAATTGGGTACAAGTGGTTCT ATAGATGGTAATAACCAACTTGTAATCAAAGGAAGATTCCAACAGAAACAGATAGAAAATGTCTTGAGAAGATAT ATCAAGGAGTATGTCACTTGTCACACATGCCGATCACCGGACACAATCCTGCAGAAGGACATGCGACTCTATTTC CTACAGTGCGAAACTTGTCATTCTAGATGTTCTGTTGCCATTATCAAAATTGGCTTCCAGGCTGTCATGGGCAAG CGAGCACAGCTCCGTGCCAAAGCTAACTAATTTGCTAATCACTGATTTTGCAAAGCTTGTTGTGGAGATGTGGCT GGACAGGTTTGCCATCAGAGTGGATATACCATTGTATTAAAAACAAGATAAAAAAGCTGCCAAGATTTTTGGCGA GTGGTTGGTTGGTCTGAAGTCCTTGCAAGACGCTGATGCTCAAGCTGTTGACATACTCATTGCCTACTTTAACAC $\verb|CTGTCAGAGAAACGTGATATGGGGTAAGGAGGTGCTTTTTTAAAATAGTTCATAGACTTCTGTAAAATGCAAGAT|\\$ AAATTAAAGTTATTATAACAGTGA

PCT/US2003/028547

978/6881 FIGURE 912

CGAGTTGGAAGAGGCGAGTCCGGTCTCAAAATGGAGGTAAAACCGCCGCCCGGTCGCCCCAGCCCGACTCCGGC CGTCGCCGTCGCCGCGGGGGAGGAGGGCCATGATCCAAAGGAACCAGTTGAGAAAACTGTTTATTGGT GGTCTGAGCTTTGAAACTACAGATGATAGTTTACGAGAACATTTTGAGAAATGGGGCACACTCACAGATTGTGTG GTAATGAGAGACCCCCAAACAAAACGTTCCAGGGGCTTTGGTTTTGTGACTTATTCTTGTGTTGAAGAGGTGGAT GCAGCAATGTGTGCTCGACCACACAGGTTGATGGGCGTGTAGTGGAACCAAAGAGAGCTGTTTCTAGAGAGGAT TCTGTAAAGCCTGGTGCCCATCTAACAGTGAAGAAAATTTTTGTTGGTGGTATTAAAGAAGATACAGAAGAATAT AATTTGAGAGACTACTTTGAAAAGTATGGCAAGATTGAAACCATAGAAGTTATGGAAGACAGGCAGAGTGGAAAA AAGAGAGGATTTGCTTTTGTAACTTTTGATGATCATGATACAGTTGATAAAATTGTTGTTCAGAAATACCACACT ATTAATGGGCATAATTGTGAAGTGAAAAAGGCCCTTTCTAAACAAGAGATGCAGTCTGCTGGATCACAGAGAGGT CGTGGAGGTGGATCTGGCAATTTTATGGGTCGCGGAGGGAACTTTGGAGGTGGTGGAGGTAATTTTGGCCGTGGT GGAAACTTTGGTGGAAGAGGTAGGCTATGGTGGTGGAGGTGGCAGCAGAGGTAGTTATGGAGGAGGTGATGG TGGATATAATGGATTTGGAGGTGATGGTGGCAACTATGGCGGTGGTCCTGGTTATAGTAGTAGAGGGGGCTATGG TGGTGGTGGACCAGGATATGGAAACCAAGGTGGTGGATATGGTGGAGGTGGAGGATATGATGGTTACAATGAAGG AGGAAATTTTGGCGGTGGTAACTATGGTGGTGGTGGGAACTATAATGATTTTTGGAAATTATAGTGGACAACAGCA ATCAAATTATGGACCCATGAAAGGGGGCAGTTTTGGTGGAAGAAGCTCGGGCAGTCCCTATGGTGGTTGTTATGG ATCTGGTGGTGGAAGTGGTGGATATGGTAGCAGAAGGTTCTAAAAACAGCAGAAAAGGGCTACAGTTCTTAGCAG GAGAGAGGGGGGGGTTGTCAGGAAAGCTGCAGGTTACTTTGAGACAGTCGTCCCAAATGCATTAGAGGAACTG TAAAAATCTGCCACAGAAGGAACGATGATCCATAGTCAGAAAAGTTACTGCAGCTTAAACAGGAAACCCTTCTTG TTCAGGACTGTCATAGCCACAGTTTGCAAAAAGTGCAGCTATTGATTAATGCAATGTAGTGTCAATTAGATGTAC ATTCCTGAGGTCTTTTATCTGTTGTAGCTTTGTCTTTTTCTTTTTCTTTTCATTACATCAGGTATATTGCCCTGT **AAATTGTGGTAGTGGTACCAGGAATAAAAATTAAGGAATTTTTAACTTTTCAATATTTGTGTAGTTCAGTTTTT** CTACATTTTAGTACAGAAACTTTAACAAAATGCAGTTTCGAAGGTGTTTCCTTGTGAGTTAACAAGTAAAGAAGA TCATTGTTAATTACTATTTTGTATGAATTTTGCTAAAGTTAACTGTAAAGAAACACCTGCTGACTTGCAGTTTAA GGGGAATCTATTCTCCCCATTTCCAAACCATGATATGAATGGGCGCTGACATGTGGAGAGAATAGATAATTTGTG TGTTTGCAATGTGTTTTTAGATAAATAGGATTGGGTATTTAAATTAGCATTTGTGAATTTAATAGCATTAAGAT TACCTTCAAATGAAAAAAAATCTCAAAATTTCTATTTGGTTTTTTGTGCATTTTCTTTTAAAATGTAATCATATGA TTTTAGTGTGTTAGACTTGCTGAGTCCTAGCTGTGTTTAGAACATCTCTATTCTACATTTACCTTGGTCAAATTT GAACTGCTGCCATAGG

MEGHDPKEREQLRKPFIGGLSFETTDDGLREHFEKWVTLTDCVVMRDPQTKCSRGFGFVTYSYIEEVDAAMCAPPHKVDGCVVEPKRAVSREDFVKPGAHLTVKKIFVGGIKIQKNII

MASVSKLACIYSALILHDDEVTVTEDKINALIKAAGVNVEPFWPGLFAKALANVNIGSLICNVGAGGPAPAEEKK VEAKKEESKESDDDMGLGLFD

AGGAAGCGGTGATTGCCGGGGGAGGAGAAGCTCCCAGATCCTTGTGTCCACTTGCAGCGGGGGAGGCGGAGACGC $\tt GGAGCGGGCCTTTTGGCGTCCACTGCGGGGCTGCACCCTGCCCCATCCTGCCGGGATC{\color{red} \underline{ATG}} \underline{GTCTGCGGGCAGCCC}$ GGGAGGGATGCTGCTGCGGGCCGGGCTGCTTGCCCTGGCTGCTCTCTGCCTGCTCCGGGTGCCCGGGGCTCG GGCTGCAGCCTGTGAGCCCGTCCGCATCCCCTGTGCAAGTCCCTGGCACGAACATGACTAAGATGCCCAACCA CCCCGATCTGCTCTTCTTCTTGTGCCATGTACGCGCCCATCTGCACCATTGACTTCCAGCACGAGCCCATCAA $\verb|ccctgtaagtctgtgtgcgagcgggccggcagggctgtgagcccatactcatcaagtaccgccactcgtggcc|\\$ GGAGAACCTGCCTGCGAGGAGCTGCCAGTGTACGACAGGGGCGTGTGCATCTCTCCCGAGGCCATCGTTACTGC GGACGGAGCTGATTTTCCTATGGATTCTAGTAACGGAAACTGTAGAGGGGCAAGCAGTGAACGCTGTAAATGTAA GCCTATTAGAGCTACACAGAAGACCTATTTCCGGAACAATTACAACTATGTCATTCGGGCTAAAGTTAAAGAGAT AAAGACTAAGTGCCATGATGTGACTGCAGTAGTGGAGGTGAAGGAGATTCTAAAGTCCTCTCTGGTAAACATTCC ACGGGACACTGTCAACCTCTATACCAGCTCTGGCTGCCTCTGCCCTCCACTTAATGTTAATGAGGAATATATCAT CATGGGCTATGAAGATGAGGAACGTTCCAGATTACTCTTGGTGGAAGGCTCTATAGCTGAGAAGTGGAAGGATCG ACTCGGTAAAAAGTTAAGCGCTGGGATATGAAGCTTCGTCATCTTGGACTCAGTAAAAGTGATTCTAGCAATAG $\texttt{TGATTCCACTCAGAGTCAGAAGTCTGGCAGGAACTCGAACCCCCGGCAAGCACGCAAC} \underline{\textbf{TAA}} \\ \texttt{ATCCCGAAATACAA}$ AAAGTAACACAGTGGACTTCCTATTAAGACTTACTTGCATTGCTGGACTAGCAAAGGAAAATTGCACTATTGCAC ATCATATTCTATTGTTTACTATAAAAATCATGTGATAACTGATTATTACTTCTGTTTCTCTTTTGGTTTCTGCTT $\tt CTCTCTTCTCAACCCCTTTGTAATGGTTTGGGGGCAGACTCTTAAGTATATTGTGAGTTTTCTATTTCACTAA$ TCATGAGAAAACTGTTCTTTTGCAATAATAAAATTAAACATGCTGTTA

MVCGSPGGMLLLRAGLLALAALCLLRVPGARAAACEPVRIPLCKSLPWNMTKMPNHLHHSTQANAILAIEQFEGL LGTHCSPDLLFFLCAMYAPICTIDFQHEPINPCKSVCERARQGCEPILIKYRHSWPENLACEELPVYDRGVCISP EAIVTADGADFPMDSSNGNCRGASSERCKCKPIRATQKTYFRNNYNYVIRAKVKEIKTKCHDVTAVVEVKEILKS SLVNIPRDTVNLYTSSGCLCPPLNVNEEYIIMGYEDEERSRLLLVEGSIAEKWKDRLGKKVKRWDMKLRHLGLSK SDSSNSDSTQSQKSGRNSNPRQARN

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ATGTCCATCAGGACGACCCAGAAGTCCTACAGGGTGTCCACTTCTGGCCCCCGGGCCTTCAGCAGCCATTTCTAC ACAAGTGGGCCTGGTGCCTCCATCAGCTCCTCGAGCTTCTCCCAAGTGGGCAGCAGCAGCTTCCGGGGTGGCCTG GGAGGAGGCTACGGTGGGCCAGTGGCATGGGAGGCATCACCACCGTCACTGTCAACCAGAGCCTGCTGAGCCCC CTTAACCTGGAGGTGGACCCACACATCCAGGCAGTGCACACTCAGAAGAAGAAGCAGATCAAGACCCTCAACACT AAGTTTGCCACCTTCATATACAAGAGTTACATCAACAACCTTAGGCAGCAGCTGGAGACTCTGGGCCAGGAAAAG CTGAAGCTGGAGGCGGAGCTTGGCAACATGCAGGGGCTGGTGGAGGACTTCAAGAACAAGTATGAGGATGAGATC AATAAGCGTACAGAGATGGAGAATGAATTTGTCCTCATCAAGAAGGATGTGGATGAAGCTTACCTGAACAAGGTA GAGCTGGAGTCTCGCCTGGAAGGGCTGACTGACGAAATCAACTTCCTCAGGCAGCTGTATGAAGAGGATATCCCG GAGCTGCAGTCCCAGATCTCAGACACGTCTGTGGTGCTGCCCATGGACAACAGCCACTCCCTGGACATGGACAGC AAAGGCCAGAGGGCTTCCCTGGAGGCCGCCATCGCAGATGCGGAGCAGCGCGGGGAGTTGGCCGTTAAGGATGCC AGCGCCAAGCTGTCTGAGCTGGAGGCCGCCCTGCAGCAAACCAAGCAGGACGTGGAGCTGATGAACGACAAGCTG AGCATGAGTATCCATACAAAGACCATCAGCAGCTATGCAGGTGGTCTGAGCTCGGCCTATGGGGGCCTCACAAGC $\verb|CCCGGCCTCAGCTGTGGACTGGGCTCCAGCTTTGGCTCTGGCGGGGGCTCCAGTTCCTTCAGCTGCATCAGCTAC| \\$ ACCAGGGCCGTGGTTGTGAAGAAGATTGAGACCCGTGATGGGACGCTGGTGTCAGAGTTCTCTGACGTCCTGCCC AAG**TGA**

MSIRTTQKSYRVSTSGPRAFSSHFYTSGPGASISSSSFSQVGSSSFRGGLGGGYGGASGMGGITTVTVNQSLLSP LNLEVDPHIQAVHTQKKEQIKTLNTKFATFIYKSYINNLRQQLETLGQEKLKLEAELGNMQGLVEDFKNKYEDEI NKRTEMENEFVLIKKDVDEAYLNKVELESRLEGLTDEINFLRQLYEEDIPELQSQISDTSVVLPMDNSHSLDMDS IINEVKRSTRSPTAASWLQAEIEGLKGQRASLEAAIADAEQRGELAVKDASAKLSELEAALQQTKQDVELMNDKL ALDIEIATYRQLLEGEESWLESGMQSMSIHTKTISSYAGGLSSAYGGLTSPGLSCGLGSSFGSGAGSSSFSCISY TRAVVVKKIETRDGTLVSEFSDVLPK

ACTGGTTTTAAGTGTAGTTGCCGACGCAATGGCAGCCTTTGCAGTGGAACCTCAGGGGCCCGCGTTAGGATCTGA ACCAATGATGCTGGGTTCACCCACATCTCCAAAGCCAGGAGTTAATGCCCAGTTCTTACCTGGATTTTTAATGGG GGATTTGCCAGCTCCGGTGACTCCACAACCTCGATCAATTAGTGGCCCTTCAGTAGGAGTAATGGAAATGAGATC ACCTTTACTTGCAGGTGGGTCACCACCACCACCAGTTGTACCAGCTCATAAAGATAAAAGTGGCGCTCCACCAGT TAGAAGTATATATGATGACATTTCTAGCCCAGGACTTGGATCAACACCTTTAACTTCAAGAAGACAGCCAAACAT TTCAGTAATGCAGAGTCCTCTTGTTGGAGTTACATCTACTCCTGGAACAGGGCAAAGTATGTTTAGTCCAGCAAG TATCGGTCAGCCACGAAAGACGACATTATCTCCTGCCCAGTTGGATCCTTTTTATACTCAAGGAGATTCTTTGAC TTCAGAAGATCACCTCGATGACTCTTGGGTGACTGTATTTGGGTTTCCTCAAGCATCTGCTTCCTACATATTACT ACAATTTGCACAGTATGGGAATATCTTAAAACATGTGATGTCTAATACAGGAAATTGGATGCATATTCGTTATCA ATCTAAACTGCAGGCTCGGAAAGCCTTAAGCAAAGATGGGAGGATTTTTGGAGAATCCATCATGATTGGTGTAAA ACCATGTATTGACAAAAGTGTTATGGAAAGCAGTGACAGATGTGCTTTATCATCTCCATCTTTAGCCTTTACACC ACCAATCAAAACTCTAGGTACACCAACACACCTGGAAGTACTCCTAGGATTTCTACCATGAGACCTCTTGCTAC ATCCAAAGCAATGGAGTACATGTTTGGCTGGTAGTAGAACACCAAGAAGGAGGTTGCTACACTAAAACAGAGTTA GCAGAGTGCTGCTTGCTTCGGTTAGTTATATAACTGTTCCTGCAGTATTGGATAGCTATCTCATACTTCTTT TAGAAAGAAGCCTTTTTCATTAAGGATACAACCTATTTGTAGCTCGCACTTTAAAAGATGCTTGAGATACATTTT AAAGAAAACTAAAAATCCCTGTAAATAGGATTTTGTGCTTTCTGTAACAGTGCATGCTTCAGCACAGAAAACTCA GCATTGATTATTGTAAATTAAATAACTGAAATTGTGGTGAGACGTCATAGTCTTCATGAGAACGTGGGGGTGAAT TTCATGAAGGGGAACTATAGTTATTTCTACCGACACAAATATTATAATTAGCAATTTGAATTATGGTCTTTTAAT TTAGATAGTATTTAATATTTTAATTATCCTTGTTTGTATATGTCCTGTCACAGAGTGTCCTCTTGGTGTATTCTA AAACGAGCATTCTTTAAAAAACCTAAAGTTTCTTGATAATAAACATTGTCAATGAT

987/6881 FIGURE 921A

GGCTGAGTTTTATGACGGGCCCGGTGCTGAAGGGCAGGGAACAACTTGATGGTGCTACTTTGAACTGCTTTTCTT ${\tt TTCTCCTTTTTGCACAAAGAGTCTCATGTCTGATATTTAGAC} \underline{{\tt ATG}} {\tt ATGAGCTTTGTGCAAAAGGGGAGCTGGCTA}$ CTTCTCGCTCTGCTTCATCCCACTATTATTTTGGCACAACAGGAAGCTGTTGAAGGAGGATGTTCCCATCTTGGT CAGTCCTATGCGGATAGAGATGTCTGGAAGCCAGAACCATGCCAAATATGTGTCTGTGACTCAGGATCCGTTCTC TGCGATGACATAATATGTGACGATCAAGAATTAGACTGCCCCAACCCAGAAATTCCATTTGGAGAATGTTGTGCA GTTTGCCCACAGCCTCCAACTGCTCCTACTCGCCCTCCTAATGGTCAAGGACCTCAAGGCCCCAAGGGAGATCCA GGCCCTCCTGGTATTCCTGGGAGAAATGGTGACCCTGGTATTCCAGGACAACCAGGGTCCCCTGGTTCTCCTGGC CCCCCTGGAATCTGTGAATCATGCCCTACTGGTCCTCAGAACTATTCTCCCCAGTATGATTCATATGATGTCAAG TCTGGAGTAGCAGTAGGAGGACTCGCAGGCTATCCTGGACCAGCTGGCCCCCAGGCCCTCCCGGTCCCCTGGT ACATCTGGTCATCCTGGTTCCCCTGGATCTCCAGGATACCAAGGACCCCCTGGTGAACCTGGGCAAGCTGGTCCT TCAGGCCCTCCAGGACCTCCTGGTGCTATAGGTCCATCTGGTCCTGCTGGAAAAGATGGAGAATCAGGTAGACCC GGACGACCTGGAGGGGGGGGTTGCCTGGACCTCCAGGTATCAAAGGTCCAGCTGGGATACCTGGATTCCCTGGT ATGAAAGGACACAGAGGCTTCGATGGACGAAATGGAGAAAAGGGTGAAACAGGTGCTCCTGGATTAAAGGGTGAA AATGGTCTTCCAGGCGAAAATGGAGCTCCTGGACCCATGGGTCCAAGAGGGGCTCCTGGTGAGCGAGGACGGCCA GGACTTCCTGGGGCTGCAGGTGCTCGGGGTAATGACGGTGCTCGAGGCAGTGATGGTCAACCAGGCCCTCCTGGT $\verb|CCTCCTGGAACTGCCGGATTCCCTGGATCCCCTGGTGCTAAGGGTGAAGTTGGACCTGCAGGGTCTCCTGGTTCA| \\$ ${\tt AATGGTGCCCTGGACAAAGAGGAGAACCTGGACCTCAGGGACACGCTGGTGCTCAAGGTCCTCCTGGCCCTCCT}$ GGGATTAATGGTAGTCCTGGTGGTAAAGGCGAAATGGGTCCCGCTGGCATTCCTGGAGCTCCTGGACTGATGGGA GCCCGGGGTCCTCCAGGACCAGCCGGTGCTAATGGTGCTCCTGGACTGCGAGGTGGTGCAGGTGAGCCTGGTAAG AATGGTGCCAAAGGAGAGCCCGGACCACGTGGTGAACGCGGTGAGGCTGGTATTCCAGGTGTTCCAGGAGCTAAA GGCGAAGATGGCAAGGATGGATCACCTGGAGAACCTGGTGCAAATGGGCTTCCAGGAGCTGCAGGAGAAAGGGGT GCCCTGGGTTCCGAGGACCTGCTGGACCAAATGGCATCCCAGGAGAAAAGGGTCCTGCTGGAGAGCGTGGTGCT CCAGGCCCTGCAGGGCCCAGAGGAGCTGCTGGAGAACCTGGCAGAGATGGCGTCCCTGGAGGTCCAGGAATGAGG GGCATGCCCGGAAGTCCAGGAGGACCAGGAAGTGATGGGAAACCAGGGCCTCCCGGAAGTCAAGGAGAAAGTGGT $\tt CGACCAGGTCCTCCTGGGCCATCTGGTCCCCGAGGTCAGCCTGGTGTCATGGGCTTCCCCGGTCCTAAAGGAAAT$ GATGGTGCTCCTGGTAAGAATGGAGAACGAGGTGGCCCTGGAGGACCTGGCCCTCAGGGTCCTCCTGGAAAGAAT GGTGAAACTGGACCTCAAGGACCCCCAGGGCCTACTGGGCCTGGTGGTGACAAAGGAGACACAGGACCCCCTGGT CCACAAGGATTACAAGGCTTGCCTGGTACAGGTGGTCCTCCAGGAGAAAATGGAAAACCTGGGGAACCAGGTCCA AAGGGTGATGCCGGTGCACCTGGAGCTCCAGGAGGCAAGGGTGATGCTGGTGCCCCTGGTGAACGTGGACCTCCT GGATTGGCAGGGCCCCAGGACTTAGAGGTGGAGCTGGTCCCCTGGTCCCGAAGGAGGAAAGGGTGCTGCTGGT CCTCCTGGGCCACCTGGTGCTGCTGGTACTCCTGGTCTGCAAGGAATGCCTGGAGAAAGAGAGGTCTTGGAAGT CCTGGTCCAAAGGGTGACAAGGGTGAACCAGGCGGCCCAGGTGCTGATGGTGTCCCAGGGAAAGATGGCCCAAGG GGTCCTACTGGTCCTATTGGTCCTCCTGGCCCAGCTGGCCAGCCTGGAGATAAGGGTGAAGGTGGTGCCCCCGGA CTTCCAGGTATAGCTGGACCTCGTGGTAGCCCTGGTGAGAGGGTGAAACTGGCCCTCCAGGACCTGCTGGTTTC CCTGGTGCTCCTGGACAGAATGGTGAACCTGGTGGTAAAGGAGAAAGAGGGGCTCCGGGTGAGAAAGGTGAAGGA GGCCCTCCTGGAGTTGCAGGACCCCCTGGAGGTTCTGGACCTGCTGGTCCTCCTGGTCCCCAAGGTGTCAAAGGT AATGGTAACCCAGGACCCCCAGGTCCCAGCGGTTCTCCAGGCAAGGATGGGCCCCCAGGTCCTGCGGGTAACACT GGTGCTCCTGGCAGCCCTGGAGTGTCTGGACCAAAAGGTGATGCTGGCCAACCAGGAGAAAGGGATCGCCTGGT GCCCAGGGCCCACCAGGAGCTCCAGGCCCACTTGGGATTGCTGGGATCACTGGAGCACGGGGTCTTGCAGGACCA CCAGGCATGCCAGGTCCTAGGGGAAGCCCTGGCCCTCAGGGTGTCAAGGGTGAAAGTGGGAAACCAGGAGCTAAC AGAGATGGAAACCCTGGATCAGATGGTCTTCCAGGCCGAGATGGATCTCCTGGTGGCAAGGGTGATCGTGGTGAA AATGGCTCTCCTGGTGCCCCTGGCGCTCCTGGTCATCCAGGCCCACCTGGTCCTGTCGGTCCAGCTGGAAAGAGT GGTGACAGAGGAGAAAGTGGCCCTGCTGGCCCTGCTGGTGCTCCCGGTCCTGCTGGTTCCCGAGGTGCTCCTGGT CCTCAAGGCCCACGTGGTGACAAAGGTGAAACAGGTGAACGTGGAGCTGCTGGCATCAAAGGACATCGAGGATTC CCTGGTAATCCAGGTGCCCCAGGTTCTCCAGGCCCTGCTGGTCAGCAGGGTGCAATCGGCAGTCCAGGACCTGCA GGCCCCAGAGGACCTGTTGGACCCAGTGGACCTCCTGGCAAAGATGGAACCAGTGGACATCCAGGTCCCATTGGA

988/6881 FIGURE 921B

CCACCAGGGCCTCGAGGTAACAGAGGTGAAAGAGGATCTGAGGGCTCCCCAGGCCACCCAGGGCAACCAGGCCCT CCTGGACCTCCTGGTGCCCTGGTCCTTGCTGTGGTGGTGTTGGAGCCGCTGCCATTGCTGGGATTGGAGGTGAA AAAGCTGGCGGTTTTGCCCCGTATTATGGAGATGAACCAATGGATTTCAAAATCAACACCGATGAGATTATGACT TCACTCAAGTCTGTTAATGGACAAATAGAAAGCCTCATTAGTCCTGATGGTTCTCGTAAAAACCCCCGCTAGAAAC TGCAGAGACCTGAAATTCTGCCATCCTGAACTCAAGAGTGGAGAATACTGGGTTGACCCTAACCAAGGATGCAAA TTGGATGCTATCAAGGTATTCTGTAATATGGAAACTGGGGAAACATGCATAAGTGCCAATCCTTTGAATGTTCCA CAGTTTAGCTACGGCAATCCTGAACTTCCTGAAGATGTCCTTGATGTGCAGCTGGCATTCCTTCGACTTCTCTCC AGCCGAGCTTCCCAGAACATCACATATCACTGCAAAAATAGCATTGCATACATGGATCAGGCCAGTGGAAATGTA AAGAAGGCCCTGAAGCTGATGGGGTCAAATGAAGGTGAATTCAAGGCTGAAGGAAATAGCAAATTCACCTACACA GTTCTGGAGGATGGTTGCACGAAACACTGGGGGAATGGAGCAAAACAGTCTTTGAATATCGAACACGCAAGGCT GTGAGACTACCTATTGTAGATATTGCACCCTATGACATTGGTGGTCCTGATCAAGAATTTGGTGTGGACGTTGGC CCTGTTTGCTTTTTA<u>TAA</u>ACCAAACTCTATCTGAAATCCCAACAAAAAAATTTAACTCCATATGTGT1[°]CCTCTT TAATTTGACAAAGAAAATGATACTTCTCTTTTTTTGCTGTTCCACCAAATACAATTCAAATGCTTTTTGTTTTA AACACTGTGTTATATTCTTTGAATCCTAGCCCATCTGCAGAGCAATGACTGTGCTCACCAGTAAAAGATAACCTT ATTGTATTCTATGAGTCCCAGAAGATGAAAAAATTTTATACGTTGATAAAACTTATAAATTTCATTGATTAATC TCCTGGAAGATTGGTTTAAAAAGAAAAGTGTAATGCAAGAATTTAAAGAAATATTTTTAAAGCCACAATTATTTT AATATTGGATATCAACTGCTTGTAAAGGTGCTCCTCTTTTTTCTTGTCATTGCTGGTCAAGATTACTAATATTTG GGAAGGCTTTAAAGACGCATGTTATGGTGCTAATGTACTTTCACTTTTAAACTCTAGATCAGAATTGTTGACTTG CATTCAGAACATAAATGCACAAAATCTGTACATGTCTCCCATCAGAAAGATTCATTGGCATGCCACAGGGATTCT CCTCCTTCATCCTGTAAAGGTCAACAATAAAAACCAAATTATGGGGCTGCTTTTGTCACACTAGCATAGAGAATG TCATATTAAAATTC

 ${\tt MMSFVQKGSWLLLALLHPTIILAQQEAVEGGCSHLGQSYADRDVWKPEPCQICVCDSGSVLCDDIICDDQELDCP}$ ${\tt NPEIPFGECCAVCPQPPTAPTRPPNGQGPQGPKGDPGPPGIPGRNGDPGIPGQPGSPGSPGPPGICESCPTGPQN}$ $\verb"YSPQYDSYDVKSGVAVGGLAGYPGPAGPPGPPGPPGTSGHPGSPGSPGYQGPPGEPGQAGPSGPPGPPGAIGPSG"$ ${\tt PAGKDGESGRPGRPGERGLPGPPGIKGPAGIPGFPGMKGHRGFDGRNGEKGETGAPGLKGENGLPGENGAPGPMG}$ $\tt PRGAPGERGRPGLPGAAGARGNDGARGSDGOPGPPGPPGTAGFPGSPGAKGEVGPAGSPGSNGAPGQRGEPGPQG$ ${\tt HAGAQGPPGPPGINGSPGGKGEMGPAGIPGAPGLMGARGPPGPAGANGAPGLRGGAGEPGKNGAKGEPGPRGERG}$ $\verb"RDGVPGGPGMRGMPGSPGGPGSDGKPGPPGSQGESGRPGPPGPSGPRGQPGVMGFPGPKGNDGAPGKNGERGGPG"$ GPGPPGKNGETGPQGPPGFTGPGGDKGDTGPPGPQGLQGLPGTGGPPGENGKPGEPGPKGDAGAPGAPGAKG DAGAPGERGPPGLAGAPGLRGGAGPPGPEGGKGAAGPPGPPGAAGTPGLQGMPGERGGLGSPGPKGDKGEPGGPG ADGVPGKDGPRGPTGPIGPPGPAGQPGDKGEGGAPGLPGIAGPRGSPGERGETGPPGPAGFPGAPGQNGEPGGKG ${\tt ERGAPGEKGEGGPPGVAGPPGGSGPAGPPGPQGVKGERGSPGGPGAAGFPGARGLPGPPGSNGNPGPPGPSGSPG}$ KDGPPGPAGNTGAPGSPGVSGPKGDAGQPGEKGSPGAQGPPGAPGPLGIAGITGARGLAGPPGMPGPRGSPGPQG QQGAIGSPGPAGPRGPVGPSGPPGKDGTSGHPGP1GPPGPRGNRGERGSEGSPGHPGQPGPPGPPGAPGPCCGGV GAAAIAGIGGEKAGGFAPYYGDEPMDFKINTDEIMTSLKSVNGQIESLISPDGSRKNPARNCRDLKFCHPELKSG EYWVDPNQGCKLDAIKVFCNMETGETCISANPLNVPRKHWWTDSSAEKKHVWFGESMDGGFQFSYGNPELPEDVL DVQLAFLRLLSSRASQNITYHCKNSIAYMDQASGNVKKALKLMGSNEGEFKAEGNSKFTYTVLEDGCTKHTGEWS KTVFEYRTRKAVRLPIVDIAPYDIGGPDQEFGVDVGPVCFL

ACGCGTCCGAGCTGGCTCAGGGCTCCGCTAGGCTCGGACGACCTGCTGAGCCTCCCAAACCGCTTCCATAAGGC TTTGCCTTTCCAACTTCAGCTACAGTGTTAGCTAAGTTTGGAAAGAAGAAAAAAAGAAAATCCCTGGGCCCCTTT TCTTTTGTTCTTTGCCAAAGTCGTCGTTGTAGTCTTTTTGCCCAAGGCTGTTGTGTTTTTAGAGGTGCTATCTCC AGTTCCTTGCACTCCTGTTAACAAGCACCTCAGCGAGAGCAGCAGCAGCAGCAGCAGCAGCAGAAGAAGCCAGCGG GGTCGCCTAGTGTCATGACCAGGGCGGGAGATCACAACCGCCAGAGAGGATGCTGTGGATCCTTGGCCGACTACC TGTCTGTGTTTCTGGTAGAGCTCTATGGAAACAGCCTCCTTTTGACAGCAGTCTACGGGCTGGTGGTGGCAGGGT CTGTTCTGGTCCTGGGAGCCATCATCGGTGACTGGGTGGACAAGAATGCTAGACTTAAAGTGGCCCAGACCTCGC TGGTGGTACAGAATGTTTCAGTCATCCTGTGTGGAATCATCCTGATGATGGTTTTCTTACATAAACATGAGCTTC TGACCATGTACCATGGATGGGTTCTCACTTCCTGCTATATCCTGATCATCACTATTGCAAATATTGCAAATTTGG CCAGTACTGCTACTGCAATCACAATCCAAAGGGATTGGATTGTTGTTGTTGCAGGAGAAGACAGAAGCAAACTAG CAAATATGAATGCCACAATACGAAGGATTGACCAGTTAACCAACATCTTAGCCCCCATGGCTGTTGGCCAGATTA TGACATTTGGCTCCCCAGTCATCGGCTGTGGCTTTATTTCGGGATGGAACTTGGTATCCATGTGCGTGGAGTACG TCCTGCTCTGGAAGGTTTACCAGAAAACCCCAGCTCTAGCTGTGAAAGCTGGTCTTAAAGAAGAGAGAAACTGAAT TGAAACAGCTGAATTTACACAAAGATACTGAGCCAAAACCCCTGGAGGGAACTCATCTAATGGGTGTGAAAGACT CTAACATCCATGAGCTTGAACATGAGCAAGAGCCTACTTGTGCCTCCCAGATGGCTGAGCCCTTCCGTACCTTCC TCCTGGGCTTTGACTGCATCACCACAGGGTACGCCTACACTCAGGGACTGAGTGGTTCCATCCTCAGTATTTTGA TGGGAGCATCAGCTATAACTGGAATAATGGGAACTGTAGCTTTTACTTGGCTACGTCGAAAATGTGGTTTGGTTC CCAAGATACCTGAAATTACAACTGAAATATACATGTCTAATGGGTCTAATTCTGCTAATATTGTCCCGGAGACAA GTCCTGAATCTGTGCCCATAATCTCTGTCAGTCTGCTGTTTGCAGGCGTCATTGCTGCTAGAATCGGTCTTTGGT CCTTTGATTTAACTGTGACACAGTTGCTGCAAGAAAATGTAATTGAATCTGAAAGAGGCATTATAAATGGTGTAC AGAACTCCATGAACTATCTTCTTGATCTTCTGCATTTCATCATGGTCATCCTGGCTCCAAATCCTGAAGCTTTTG GCTTGCTCGTATTGATTTCAGTCTCCTTTGTGGCAATGGGCCACATTATGTATTTCCGATTTGCCCCAAAATACTC TT<u>TGA</u>GACAGTTTAACTGTTGCTATCCTGTTACTAGATTATATAGAGCACATGTGCTTATTTTGTACTGCAGAAT TCCAATAAATGGCTGGGTGTTTTGCTCTGTTTTTACCACAGCTGTGCCTTGAGAACTAAAAGCTGTTTAGGAAAC CTAAGTCAGCAGAAATTAACTGATTAATTTCCCTTATGTTGAGGCATGGAAAAAAATTTGGAAAAGAAAAACTCA GTTTAAATACGGAGACTATAATGATAACACTGAATTCCCCTATTTCTCATGAGTAGATACAATCTTACGTAAAAG AGTGGTTAGTCACGTGAATTCAGTTATCATTTGACAGATTCTTATCTGTACTAGAATTCAGATATGTCAGTTTTC TGCAAAACTCACTCTTGTTCAAGACTAGCTAATTTATTTTTTTGCATCTTAGTTATTTTTAAAAAACAAATTCTTC **AAGTATGAAGACTAAATTTTGATAACTAATATTATCCTTATTGATCCTATTGATCTTAAGGTATTTACATGTATG** TGGAAAAACAAAACACTTAACTAGAATTCTCTAATAAGGTTTATGGTTTAGCTTAAAGAGCACCTTTGTATTTTT ATTATCAGATGGGGCAACATATTGTATGAAGCATATGTAGCACTTCACAGCATGGTTATCATGTAAGCTGCAGGT AGAAGCAAAGCTGTAAAGTAGATTTATCACACAATGACTGCATACAGACTTCAAATATGTCAATAGTTTGGTCAT AGAACCTAGAAGCCAAAAGCCACAGAAGGGCAAGAATCCCAATTTAACTCATGTTATCATCATTAGTGATCTG TGTTGTAGAACATGAGGGTGTAAGCCTTCAGCCTGGCAAGTTACATGTAGAAAGCCCACACTTGTGAAGGTTTTG CTACATTGTTCTACAGCAAGAATATTCATAAAAGTATCCCTTTCAAATGCCTTTGAGAAGAATAGAAGAAAAAAA GTTTGTATATTTTAAAAAATTGTTTTAAAAGTCAGTTTGCAACATGTCTGTACCAAGATGGTACTTTGCCTTA TTGCTTCATCTTTCTACAGTATGACATAATGATTTGCTATGTTGTAAAAATCTTTGTAAAAAATTTCTATATAAAA ATATTTTGAAAATCTTAAAAAAAAAAAAAAAAAAAA

MTRAGDHNRQRGCCGSLADYLTSAKFLLYLGHSLSTWGDRMWHFAVSVFLVELYGNSLLLTAVYGLVVAGSVLVL GAIIGDWVDKNARLKVAQTSLVVQNVSVILCGIILMMVFLHKHELLTMYHGWVLTSCYILIITIANIANLASTAT AITIQRDWIVVVAGEDRSKLANMNATIRRIDQLTNILAPMAVGQIMTFGSPVIGCGFISGWNLVSMCVEYVLLWK VYQKTPALAVKAGLKEEETELKQLNLHKDTEPKPLEGTHLMGVKDSNIHELEHEQEPTCASQMAEPFRTFRDGWV SYYNQPVFLAGMGLAFLYMTVLGFDCITTGYAYTQGLSGSILSILMGASAITGIMGTVAFTWLRRKCGLVRTGLI SGLAQLSCLILCVISVFMPGSPLDLSVSPFEDIRSRFIQGESITPTKIPEITTEIYMSNGSNSANIVPETSPESV PIISVSLLFAGVIAARIGLWSFDLTVTQLLQENVIESERGIINGVQNSMNYLLDLLHFIMVILAPNPEAFGLLVL ISVSFVAMGHIMYFRFAQNTLGNKLFACGPDAKEVRKENQANTSVV

TTTTGTGAAGAGACGAAGACTGAGCGGTTGCGGCCGCGTTGCCGACCTCCAGCAGCAGTCGGCTTCTCTACGCAG CCATCAAACACAATGGCCAGCAACGTTACCAACAAGACAGATCCTCGTTCCATGAACTCCCGTGTATTCATTGGG AATCTCAACACTCTTGTGGTCAAGAAATCTGATGTGGAGGCAATCTTTTCGAAGTATGGCAAAATTGTGGGCTGC TCTGTTCATAAGGGCTTTGCCTTCTTTCAGTATGTTAATGAGAGAAATGCCCGGGCTGCTGTAGCAGGAGAGGAT GGCAGAATGATTGCTGGCCAGGTTTTAGATATTAACCTGGCTGCAGAGCCAAAAGTGAACCGAGGAAAAGCAGGT GTGAAACGATCTGCAGCGGAGATGTACGGCTCCTCTTTTGACTTGGATTGTGACTTTCAACGGGACTATTATGAT AGGATGTACAGTTACCCAGCACGTGTACCTCCTCCTCCTCTATTGCTCGGGCTGTAGTGCCCTCGAAACGTCAG CGTGTATCAGGAAACACTTCACAAAGGGGCATAAGTGGCTTCAATTCTAAGAGTGGACAGCGGGGATCTTCCAAG TCTGGAAAGTTGAAAGGAGATGACCTTCAGGCCATTAAGAGGGAGCTGACCCAGATAAAACAAAAAGTGGATTCT TTCCTGGAAAACCTGGAAAAAATTGAAAAGGAACAGAGCAAACAAGCAGTAGAGATGAACAATGTTAAGTCAGAA GAGGAGCAGAGCAGCTCCGTGAAGAAAGATGAGACTAATGTGAAGATGGAGTCTGAGGGGGGGTGCAGATGAC TCTGCTGAGGAGGGGGACCTACTGGATGATGATGATGAAGATGGGGGGGATGACCAGCTGGAGTTGATCAAGG ATGATGAAAAAGAGGCTGAGGAAGGAGAGGATGACAGAGACAGCGCCAATGGCGAGGATGACTCTTAAGCACATA GTGGGGTTTAGAAATCTTATCCCATTATTTCTTTACCTAGGCGCTTGTCTAAGATCAAATTTTTCACCAGATCCT $\tt TTGCCCGGGCCTAGTCCCATTTTCACTTCCTTTGACGCTCCTAGTAGTTTTGTTAAGTCTTACCCTGTAATTTT$ TGCTTTTAATTTTGATACCTCTTTATGACTTAACAATAAAAATGATGTATGGTTTTTATCAACTGTCTCCAAAAT GCAATCTCATTTAGTTGAGTAGCTCTTGAAAGCAGCTTTGAGTTAGAAGTATGTGTGTTACACCCCCACATTAGT GTGCTGTGTGGGGCAGTTCAACACAAATGTAACAATGTATTTTTTGTGAATGAGAGTTGGCATGTCAAATGCATCC TCTAGAAAAATAATTAGTGTTATAGTCTTAAGATTTGTTTTCTAAAGTTGATACTGTGGGTTATTTTTGTGAACA GCCTGATGTTTGGGACCTTTTTTCCTCAAAATAAACAAGTCCTTATTAAACCAGG

WO 2004/030615 PCT/US2003/028547

993⁷/6881 FIGURE 926

CTGGTGCCTCTGAAGAGCTCCTCAATAAACTTAAGCTTGAGAGGGATTTCAGCAGGTATAACTACCTGAGTCTGG ATTCGGCCAAAGTGAATGGAGTGGATGATGCAGCAAATTTTAGAACCGTGCGGAATGCCATGCAGATTGTGGGCT TTATGGATCATGAAGCTGAGTCTGTCTTGGCGGTGGTGGCAGCAGTGTTGAAACTGGGGAACATTGAGTTCAAGC CCGAATCTCGAGTGAATGGTCTAGATGAAAGCAAAATCAAAGATAAAAATGAGTTAAAAGAAATTTGTGAATTGA CCGGCATTGATCAATCAGTTCTAGAACGAGCATTCAGTTTCCGAACAGTTGAGGCCAAACAGGAGAAAGTTTCAA CTACACTGAATGTGGCTCAGGCTTATTATGCCCGTGATGCTCTGGCTAAAAACCTCTACAGCAGGTTGTTTTCAT AAATCTTCATTGAACTTACTCTTAAAGAAGAGCAGGAGGAGTATATACGGGAGGATATAGAATGGACTCACATTG ACTACTTCAATAATGCTATCATTTGTGACCTAATAGAAAATAACACAAATGGAATCCTGGCCATGCTGGATGAAG ATTTTGAGAGCAGGATGAGCAAGTGCTCTCGGTTCCTCAATGACACGTCTCTGCCTCACAGCTGCTTCAGGATCC AGCATTATGCTGGAAAGGTGCTGTACCAGGTGGAAGGATTCGTTGACAAAAACAATGACCTTCTCTATCGAGACC TGTCCCAAGCCATGTGGAAGGCCAGCCATGCCCTCATCAAGTCTTTGTTCCCCGAAGGGAATCCCGCCAAGATCA ACCTGAAAAGGCCTCCTACAGCAGGCTCACAGTTCAAGGCATCCGTGGCCACTCTGATGAAAAACCTACAGACCA AGAACCCAAACTATATTAGGTGTATCAAACCGAATGATAAAAAAGCAGCACACATCTTCAACGAGGCTCTAGTGT GTGTGGAGGTCCTATTTAATGAATTAGAAATTCCCGTGGAAGAATACTCCTTTGGTAGATCAAAGATATTCATCC GAAACCCAAGAACATTATTCAAATTAGAAGACCTGAGGAAGCAACGCCTGGAGGACTTGGCCACTCTCATTCAGA AGATATATCGGGGGTGGAAATGCCGCACACACTTCCTGCTAATGAAAAAAAGCCAAATTGTGATTGCCGCCTGGT ACAGGAGATATGCGCAACAAAAGAGGTACCAGCAGACAAAGAGTTCCGCCTTAGTAATTCAGTCTTATATCCGGG GTTGGAAGGCTCGAAAAATTCTGCGGGAACTGAAGCATCAAAAGCGCTGTAAGGAAGCAGTCACGACCATTGCTG CATATTGGCATGGGACCCAGGCTCGAAGGGAATTGAAACGCTTGAAGGAGGAGGCTAGGCGTAAGCATGCAGTTG CTGTCATTTGGGCTTACTGGCTTGGACTGAAGGTACGTAGAGAATACAGGAAATTCTTCAGAGCCAATGCTGGAA AGAAAATCTATGAGTTTACGCTTCAGAGAATTGTGCAAAAATACTTCTTGGAAATGAAAAATAAGATGCCTTCCT TAGAAGCCAGTGAACTCTTCAAAGACAAGAAGGCTTTATACCCATCTAGTGTTGGGCAACCATTCCAAGGGGCTT ACCTGGAAATCAACAAGAACCCCAAGTATAAGAAACTCAAAGATGCCATTGAAGAAAAGATCATCATTGCTGAAG TIGCTGACCAAAAGTCTGGACAAATCAAGTCAGAGGTTCCATTGGTGGATGTGACCAAGGTATCAATGAGCTCAC AAAATGATGGCTTCTTCGCCGTCCACCTCAAAGAGGGCTCAGAAGCAGCTAGTAAAGGAGACTTTCTCTTCAGCA GTGATCACCTGATTGAAATGGCCACCAAGCTCTATCGCACAACTCTCAGCCAAACCAAACAGAAGCTCAATATTG AGATTTCCGATGAGTTCCTGGTACAGTTCAGACAGGACAAAGTATGTGTGAAGTTTATTAGGAACCCTGTAGTAT CTACATGTGGTTTCTGTTTG

AGGTCAGAAATGTGAATTCCAGGATGCCTATGTTCTGTTGAGTGAAAAGAAAATTTCTAGTATCCAGTCCATTGT ACCTGCTCTTGAAATTGCCAATGCTCACCGTAAGCCTTTGGTCATAATCGCTGAAGATGTTGATGGAGAAGCTCT AAGTACACTCGTCTTGAATAGGCTAAAGGTTGGTCTTCAGGTTGTGGCAGTCAAGGCTCCAGGGTTTGGTGACAA TAGAAAGAACCAGCTTAAAGATATGGCTATTGCTACTGGTGGTGCAGTGTTTGGAGAAGAGGGGATTGACCCTGAA TCTTGAAGACGTTCAGCCTCATGACTTAGGAAAAGTTGGAGAGGTCATTGTGACCAAAGACGATGCCATGCTCTT **AAAAGGAAAAGGTGACAAGGCTCAAATTGAAAAACGTATTCAAGAAATCATTGAGCAGTTAGATGTCACAACTAG** TGAATATGAAAAGGAAAAACTGAATGAACGGCTTGCAAAACTTTCAGATGGAGTGGCTGTGCTGAAGGTTGGTGG GACAAGTGATGTTGAAGTGAATGAAAAGAAAGACAGAGTTACAGATGCCCTTAATGCTACAAGAGCTGCTGTTGA AGAAGGCATTGTTTTGGGAGGGGGTTGTGCCCTCCTTCGATGCATTCCAGCCTTGGACTCATTGACTCCAGCTAA TGAAGATCAAAAAATTGGTATAGAAATTATTAAAAGAACACTCAAAATTCCAGCAATGACCATTGCTAAGAATGC AGGTGTTGAAGGATCTTTGATAGTTGAGAAAATTATGCAAAGTTCCTCAGAAGTTGGTTATGATGCTATGGCTGG AGATTTTGTGAATATGGTGGAAAAAGGAATCATTGACCCAACAAAGGTTGTGAGAACTGCTTTATTGGATGCTGC TGGTGTGGCCTCTCTGTTAACTACAGCAGAAGTTGTAGTCACAGAAATTCCTAAAGAAGAAGAAGACCCTGGAAT GGGTGCAATGGGTGGAATGGGAGGTGGTATGGGAGGTGGCATGTTCTAACTCCTAGACTAGTGCTTTACCTTTAT TAATGAACTGTGACAGGAAGCCCAAGGCAGTGTTCCTCACCAATAACTTCAGAGAAGTCAGTTGGAGAAAATGAA GAAAAAGGCTGGCTGAAAATCACTATAACCATCAGTTACTGGTTTCAGTTGACAAAATATATAATGGTTTACTGC TGTCATTGTCCATGCCTACAGATAATTTATTTTGTATTTTTGAATAAAAAACATTTGTACATTCCTGATACTGGG TACAAGAGCCATGTACCAGTGTACTGCTTTCAACTTAAATCACTGAGGCATTTTTACTACTATTCTGTTAAAATC AGGATTTTAGTGCTTGCCACCACCAGATGAGAAGTTAAGCAGCCTTTCTGTGGAGAGTGAGAATAATTGTGTACA AAGTAGAGAAGTATCCAATTATGTGACAACCTTTGTGTAATAAAAATTTGTTTAA

GCTACACTAGAGCAGAGTACGAGTCTGAGGCGGAGGGAGTAATCGCAGGACAAGCGTTTAGAAAGTTTCTTCCAC
TCTTTGACCGAGTATTGGTTGAAAGGAGTGCTGCTGAAACTGTAACCAAAGGAGGCATTATGCTTCCAGAAAAAT
CTCAAGGAAAAGTATTGCAAGCAACAGTAGTCGCTGTTGGATCGGGTTCTAAAGGAAAAGGGTGGAGAGATTCAAC
CAGTTAGCGTGAAAGTTGGAGATAAAGTTCTTCTCCCAGAATATGGAGGCACCAAAGTAGTTCTAGATGACAAGG
ATTATTTCCTATTTAGAGATGGTGACATTCTTGGAAAGTACGTAGACTGAAATAAGTCACTATTGAAATGGCATC
AACATGATGCTGCCCCATTCCACTGAAGTTCTGAAATCTTTCGTCATGTAAATAATTTCCATATTTCTCTTTTATA
ATAAACTAATGATAACTAATGACATCCAGTGTCTCCAAAATTGTTTCCTTGTACTGATATAAACACTTCCAAAATA

 ${\tt MAGQAFRKFLPLFDRVLVERSAAETVTKGGIMLPEKSQGKVLQATVVAVGSGSKGKGGEIQPVSVKVGDKVLLPE} \\ {\tt YGGTKVVLDDKDYFLFRDGDILGKYVD} \\$

TGGAAAGAGTGGAACGAGAAAACCTTTCAGACTATTGTGTTCTGGGCCAGCGTCCAATGCATTTACCAAATATGA ACCAGCTGGCATCCCTGGGGAAAACCAACGAACAGTCTCCTCACAGCCAAATTCACCACAGTACTCCAATCCGAA AACAAATAGCCATGGCCCATCTGATAAACCAACAGATTGCCGTTAGCCGGCTCCTGGCTCACCAGCATCCTCAAG AAGTCTCTCCAGATATCTACCAGCAAGTCAGAGATGAGCTGAAGAGGGCCAGTGTGTCCCAAGCTGTCTTTGCAA GAGTGGCATTCAACCGCACACAGGTACAATTAGCATTAAACACTGTAATTAACAGTAATACTGGGGACAGAATTG GAGGTAATGGACATCTTTGAACCCAACATGCAACTCAGGACCCCAAATGTTACTAATGACTTGGGTATGTACTCT CTCATCCTCTCCATTTACTGTTTGCAGATGTAACCCTGATCTTGAATTTTGTGATTATCAGTCTCTTGCCATTTT TTAAAACAAATTATAAAACTATGCATGCCCAGACAATCTATTTTTTTCCCTTGGTTTTGAACGTTATAAAAGAAA TAAAATTATGTTTTATAATTTTATAAGTAAAGTTTTATTTAAAAATTTATAAAAATCCTTCAAAACATAAAAGTT AGATTTAAGATATTGATAAAATGATAATGGATAGTTTACTTTTATTTTTTAATGTTTGAGAGAATTATATGCCAAT TATAACACTAAATGTTGAAAATGTAAACAGTTAATTCACACGTCTTATTTTTATTGAGGGTGCTTATATGTAAGA CATTCTTTTCTGCTAGTAGTTCTTAAACTGGAGTGTGCATCAGAATCACCTGGAGGGCTGTGAAACACAGACTGC TGGGCCTCATCCCATAGTTTCTGATTGAGTAAGTCTGAGGTTGGACTCAGAAATGGACATTTCTAACAAGATCCC AGGTGATTATGATGGTACTGATCCGGGGCCGCATGTTGAGAAAAACTTACCTAGCCCTTATATGAGTAAGAACAA AGCAGATGTGCATAATCTCGGGGAGCTAACGATCTAGTGGTGAAAACCAGGTAACCAGATAATTAGAGTAAAATG TGAAGTGTTATGAGTAATGTTGGAGAGTGTAAGCAATAGTTGTGGTGGAGGTTCATGGTGAGCTGGAGGTGAGGA ATACTTCCAGGAGAATGAATATGGTAAGCCTTCAAGAAAACAGTAGATTAAAATTTCAGCACCCTCGTAAATGCA AGGCAGGAAGCTAAGCTCTATGTGGGTGCAAAGAGGAAAAAGATAATGGGCAAGCACATATGTAAACAACACTCT AGAGTATTAGGTTGTCAATGGGTTAGACCTTGAAGGATTAATAAAGTACAGCAGGCAAAGATGATGAAGAAGAAG ATTATTATTTTAAGGTAAAGACATTCATAGGAAAGATGTTGAGTTAAAAAATGCAGGAATAATTTGAAGACATAA AACAACTGATTTCTGAGAAAAACCCTGTGAACGTACAGAATGTAGGAATGCTTTCATTTATCTGATACCTGTTCA TTGGAAAATACAGGAATGTTTCCAAATTTAATGATTACTTCAGAAGTTAAGGGGCTGGGCACAGTGGCTCATGTC TGTAGTCCTAGCACTTTGGGAGGCCAAGGTGGGCGGATCACTTGAGGTCAGGAGTTCAAGACCAGCCTGGGCAAG CTCAGCTACTCAGGAGGCTGAGGCAGAAGAATCCCTTGAACCCAGGAGGCGGAGGCTGCAGTGAGCCGAGATCAT

WO 2004/030615 PCT/US2003/028547

1001/6881 FIGURE 934

GAGAGGAGACACCGCCGCAGTTGCCGGTACATCGGGGATTTCTGGCTCTTTCCTCTTCGCCTTAAATTCGGGTGT CTTTT<u>ATG</u>AATAATCAAAAGCAGCAAAAGCCAACGCTATCAGGCCAGCGTTTTAAAACTAGAAAAAGAGATGAAA AAGAGAGGTTTGACCCTACTCAGTTTCAAGACTGTATTATTCAAGGCTTAACTGAAACCGGTACTGATTTGGAAG CAGTAGCTAAGTTTCTTGATGCTTCTGGAGCAAAACTTGATTACCGTCGATATGCAGAAACACTCTTTGACATTC TGGTGGCTGGTGGAATGCTGGCCCCAGGTGGTACACTGGCAGATGACATGATGCGTACAGATGTCTGCGTGTTTG CAGCCCAAGAAGATCTAGAGACCATGCAAGCATTTGCTCAGGTTTTTAACAAGTTAATCAGGCGCTACAAATACC TGGAGAAAGGTTTTGAAGATGAAGTAAAAAAGCTGCTGCTGTTCTTGAAGGGTTTTTCAGAGTCGGAGAGGAACA AGCTAGCTATGTTGACTGGTGTTCTTCTGGCTAATGGAACACTTAATGCATCCATTCTTAATAGCCTTTATAATG AAAATTTGGTTAAAGAAGGAGTTTCAGCAGCTTTTGCTGTGAAGCTCTTTAAATCATGGATAAATGAAAAGATA TCAATGCAGTAGCTGCAAGTCTTCGGAAAGTCAGCATGGATAACAGACTGATGGAACTCTTTCCTGCCAATAAGC AAACCATCGGAGCTCGTAAGGAGCTCCAGAAAGAACTTCAAGAACAGATGTCCCGTGGTGATCCATTTAAGGATA TAATTTTATATGTCAAGGAGGAGATGAAAAAAAAACAACATCCCAGAGCCAGTTGTCATCGGAATAGTCTGGTCAA GTGTAATGAGCACTGTGGAATGGAACAAAAAAGAGGAGCTTGTAGCAGAGCCAAGCCATCAAGCACTTGAAGCAAT ACAGCCCTCTACTTGCTGCCTTTACTACTCAAGGTCAGTCTGAGCTGACTCTGTTACTGAAGATTCAGGAGTATT GCTATGACAACATTCATTCATGAAAGCCTTCCAGAAAATAGTGGTGCTTTTTTATAAAGCTGAAGTCCTGAGCG AGGAGCCCATTTTGAAGTGGTATAAAGATGCACATGTTGCAAAGGGGAAGAGTGTTTTCCTTGAGCAAATGAAAA AGTTTGTAGAATGGCTCAAAAATGCTGAAGAAGAATCTGAATCTGAAGCTGAAGAAGGTGAC<u>TGA</u>A[†]TTTTGAAAC TACACCCTCAGTAAAGCAAACAGGAGTTGTAGATAAAATGTCATGTCTCATGTGTCCTGGTTCTTACATCTTCCT ACCTCCCTGTATCAAGCATGATATAAGGGCTTTCATGGCAAATTTTATTTTAACTGTTTCTATGGTTGCTGGAAA TGTTGGGTTTAGTTTCTAAAACCATGTTTTAAGTAGCTACAGGAGCTATAGATTTGAATCTAATGTTGCATTAGT CTTTTCAGTTATCTTCTACCTCCTGTATTTTCTACTGTAATAATGTAATTTAAGGCCTTCCACAATGAACAGTTC ACTTTATTCCCTGGGTTTTCTATAAACAGTTTTAAGGATATGATTTGGTTAAAAAAATAATTTGTTATAAAAATTC TGTTTGCAAATTAAACTGGAAAAGTATCCAGAGTCTCAAAAGGCAATGATTTGTGAGATAATATGGCATGCCCGG AGCCCTGCTCATCAATGAAAAACCCATATGTAATAATCGAATTCATTTAACATGAATCTTGAGTACGTGGACCAT AATTGTTTGGTCTCTGGTTTTCATCCTTAGAGAAGCCATGGAGAACAGACTTGAAAAGTTTAGGAAATCATAATG TGGCAGAGGTGGTGGGAAGAAGAAGTTGAGCTTTTTCCCCTTGAGAAACTTCTGCATTTAGTTTCTATCTTTCC AGGCAAAACAAATGGGTATTCTTTTCATACAACCATTTTCAAATGAACCTTAGAAAAGTCTTAACATTTAAGGTA TTTTATGCACAGAATACACTTAGATTGATAGGAAAGAACTCGTAATGGAGTTTGAGTAAAGAAAATGACTGATGT ACTAAACCCAGTAAAAATTGTTGAAAATGTTAAAGGTCAGCATGTTCTAATTGGGAATCTAGATATAGCTTAGAT TTCCTATTGGCTTAGAGTATTTGCTATAACAAATGAAGTGCAATGACAATTATATATTCCTACTCGGTCATACTG GACTGGCTTCGTTCTCTTAATATACTCAGTAATGACTCAAGCCTCTGGCTATTAACATACCCTAGTTGCCGTTTT CTTTTCTTGCTGCTACCCATCTATGTATGTAGTCATTGGGGGGGAAAATGTAGCCACATTTTTTATGGGAAGACTT TGTGTTAAAAGTGAACATTTTGAAGGTTTTTAACTGGTGAAACTAGCCTGGAATAATGCCACCAGAGACTGAGTG GAAATCGCCCCTTTTGAAGGTGCCATTCTTATGAGCCAAAAGTTTGTCATTTAAAAGTTCATTTTGAGGGAATAA CATGTAATATAATTTGAAATAAAGGTATAGTAACCTTAAAAAGAACATTATAACTGATTGTTGTGAATGGGGTGA ATTTGTTAAAATGAGTAACTTTGATAAAGTTTTTCATGCACAGGCAAAATGTATTCACTAGATTTCTACGTAGTG

MNNQKQQKPTLSGQRFKTRKRDEKERFDPTQFQDCIIQGLTETGTDLEAVAKFLDASGAKLDYRRYAETLFDILV AGGMLAPGGTLADDMMRTDVCVFAAQEDLETMQAFAQVFNKLIRRYKYLEKGFEDEVKKLLLFLKGFSESERNKL AMLTGVLLANGTLNASILNSLYNENLVKEGVSAAFAVKLFKSWINEKDINAVAASLRKVSMDNRLMELFPANKQS VEHFTKYFTEAGLKELSEYVRNQQTIGARKELQKELQEQMSRGDPFKDIILYVKEEMKKNNIPEPVVIGIVWSSV MSTVEWNKKEELVAEQAIKHLKQYSPLLAAFTTQGQSELTLLLKIQEYCYDNIHFMKAFQKIVVLFYKAEVLSEE PILKWYKDAHVAKGKSVFLEQMKKFVEWLKNAEEESESEAEEGD

 $\tt CCCCACGACAGTCCGGTTTGTAGATTCCCTGATCTGCAATTCTTCCCGTTCCTTCATGGATTTGAAGGCTCTCCT$ TTCTTCCTTGAATGACTTTGCATCCCTCTCGTTTGCTGAGAGTTGGGACAATGTTGGATTACTGGTGGAACCAAG GAAGGCAGACCTCATTCTCCTACCATCCGCCTATCTTCCGACCCATGAAGCGCATAACCTGGAACACATGGAA GGAGCGCCTGGTGATCCGGGCTCTGGAGAACAGAGTCGGTATCTACTCTCCTCATACAGCCTATGATGCTGCGCC ${\tt CCAGGGCGTCAACAACTGGTTGGCTAAAGGGCTTGGAGCTTGTACCTCCAGGCCCATACATCCTTCCAAAGCTCC}$ CAACTACCCTACAGAGGGAAACCACCGAGTAGAATTCAACGTTAACTACACCCAAGACCTGGACAAAGTCATGTC GACGGAAATTCTGTCACTGGAGAAGCCTTTGCTTCTACATACTGGAATGGGACGGTTATGCACACTGGATGAATC TGTCTCCCTGGCAACCATGATTGATCGAATAAAAAGACACCTAAAACTATCTCATATTCGCTTAGCCCTTGGGGT GGGGAGAACCTTAGAGTCTAAGTCAAAGTCGTGGCCCTGTGTGCTGGTTCTGGGAGCAGCGTTCTGCAGGGTGT TGAGGCTGACCTTTACCTCACAGGTGAGATGTCCCATCATGATACTTTGGATGCTGCTTCCCAAGGAATAAATGT TAACACATTCTACAAATCAGCTGGATGCCAACTTAAATTTGTAACATGAGTCAGTGGGACTGGTGTGCTTCCAGA GAGTGTCTTCGAGGGTATCATCATTTCCGGTTTGTTAATCTTATTCACCAAATGTTCTATCGCTCGTAAGGTAAA ACTGTAATATAACTACCATATTAAATAACAAATGTTCATTATAAACTCTAGGAAAGATTGAATAAAATCTGTTTA CTTAACATTC

MLSSCVRPVPTTVRFVDSLICNSSRSFMDLKALLSSLNDFASLSFAESWDNVGLLVEPSPPHTVNTLFLTNDLTE EVMEEVLQKKADLILSYHPPIFRPMKRITWNTWKERLVIRALENRVGIYSPHTAYDAAPQGVNNWLAKGLGACTS RPIHPSKAPNYPTEGNHRVEFNVNYTQDLDKVMSAVKGIDGVSVTSFSARTGNEEQTRINLNCTQKALMQVVDFL SRNKQLYQKTEILSLEKPLLHTGMGRLCTLDESVSLATMIDRIKRHLKLSHIRLALGVGRTLESQVKVVALCAG SGSSVLQGVEADLYLTGEMSHHDTLDAASQGINVILCEHSNTERGFLSDLRDMLDSHLENKINIILSETDRDPLQ

GAGTCTCCTAAAGAGCCCGAACAGCTGAGGAAGCTCTTCATTGGAGGGTTGAGCTTTGAAACAACCGATGAGAGC CTGAGGAGCCATTTTGAGCAACGGGGAACGCTCACAGACTGTGTGGTAATGAGAGATCCAAACACCAAGTGCTCC ACGGGCTTTGGGTTTGTCACATATGCCACTGTGAAGGAGGTGGAGGCAGCTATGAATGCAAGGCCACAGAAGGTG GATGGAAGAGTCGTGGAACCAAAGAGAGCTGTCTCGAGAGAAGATTCTCAAAGACCAGGTGCCCACTTAACTGTG AAAAGATATTTGTTGGTGGCATTAAAGAAGACACTGAAGAACATCACCTAAGAGATTATTTTGAACAGTATGGA AAAATTGAAGTGATTGAAATCATGACTGACCGAGGCAGTGGGAAGAAAAGGGGCTTTGCCTTTGTAACCTTTGAT GACCATGACTCCGTGGATAAGATTGTCATTCAGAAATACCACACTGTGAATGGCCACAACTGTGAAGTTAGAAAA GCCCTGTCAAAGCAAGAGATGACTAGTGCTTCATCTAGCCAAAGAGGTCGAAGTGGTTCTGGAAACTTTGGTGGT GGTCGTGGAGGTGGTTTCAGTGGGAATGACAACTTTGGTCATGGAAGAAACTTCAGTGGTCATGGTGGCTTTGGT GGCAGCCGTGGTGGTGGATATGATGGCAGTGGGGATGGCTATAATGGATTTGGTAATGATGGAAGCCATTTT GGAGGTGGTGGAAGCTACAATGATTTTGGCAATTACAAAAATCAGTCTTCAAATTTTGGACCCGTGAAGGGAGGA AATTTTGGAGGCAGAAGCTCTGGCCCCTATGGCGGTGGAGGCCAATACTTTGCAAAACCACGAAACTAAGGTGGC ${\tt TATGGCGGTTCCAGCAGTAGCAGTAGCTATGGCAGTGGCAGAAGATTT} \underline{{\tt TAA}} {\tt TTAGGAAACAAAGCTTAGCAGGAG}$ AGGAGAGCCAGAGAAGTGACAGGGAAGCTACAGGTTACAACAGATTTGTGAACTCAGCCAAGCACAGTGGTGGCA GGGCCTAGCTGCTACAAAGAAGACATGTTTTAGACAAATACTCATGTGTATGGGCAAAAAACTCGAGGACTGTAT TTGTGACTAATTGTATAACAGGTTATTTTAGTTTCTGTTCTGTGGAAAGTGTAAAGCATTCCAACAAAGGGTTTT AATGTAGATTTTTTTTTTTGCACCCATGCTGTTGATTGCTAAATGTAATAGTCTGATCGTGACGCTGAATAAATG TTAGAATTCCTTCAGGGTGATGCCAGGTTCTATTTGGAATTTATATACAACCTGCTTGGGTGGAGAAGCTATTGT CTTCGGAAACCTTGGTGTAGTTGAACTGATAGTTACTGTTGTGACCTGAAGTTCACCATTAAAAGGGATTACCCA AGCAAAATCATGGAATTATTGGTTATAAAAGTGATTGTTGGCACATCCTATGCAATATATCTAAATTGAATAATG GTACCAGATAAAATTATAGATGGGAATGAAGCTTGTGTATCATCCATTATCATGTGTAATCAATAAACGATTTAA TTCTCTGGAA

 ${\tt MSKSESPKEPEQLRKLFIGGLSFETTDESLRSHFEQRGTLTDCVVMRDPNTKCSTGFGFVTYATVKEVEAAMNARPQKVDGRVVEPKRAVSREDSQRPGAHLTVKKIFVGGIKEDTEEHHLRDYFEQYGKIEVIEIMTDRGSGKKRGFAFVTFDDHDSVDKIVIQKYHTVNGHNCEVRKALSKQEMTSASSSQRGRSGSGNFGGGRGGGFSGNDNFGHGRNFSGHGGGGSGRGGGGYDGSGDGYNGFGNDGSHFGGGGSYNDFGNYKNQSSNFGPVKGGNFGGRSSGPYGGGGQYFAKPRNRWLWRFQQVAVAMAVAEDF$

ATGTTGGTGCTGTTTGAAACGTCTGTGGGTTACGCCATCTTTAAGGTTCTAAATGAGAAGAAACTTCAAGAGGTT CAGGATACAGCAGAAGCATTAGCAGCATTCACAGCTCTGATGGAGGGCAAAATCAATAAGCAGCTGAAAAAAGTT CTGAAGAAATAGTAAAAGAAGCCCATGAACCGCTGGCAGTAGCTGATGCTAAACTAGGAGGGGTCATAAAGGAA TTAATCCCTGGGGTAGAACCACGTGAAATGGCAGCTATGTGTCTTGGATTGGCTCACAGCCTGTCTCGATATAGA TTGAAGTTTAGCGCTGATAAAGTAGACACAATGATTGTTCAGGCAATTTCCTTGTTAGATGACTTGGATAAAGAA AATTTAACATACTGCAAGTGTTTACAGAAAGTTGGCGATAGGAAGAACTATGCCTCTGCCAAGCTTTCTGAGTTG CTGCCAGAAGAAGTTGAAGCAGAAGTGAAAGCAGCTGCAGAGATATCAATGGGAACAGAGGTTTCAGAAGAAGAT ATTTGCAATATTCTGCATCTTTGCACCCAGGTGATTGAAATCTCTGAATATCGAACCCAGCTCTATGAATATCTA CAAAATCGAATGATGGCCATTGCACCCAATGTTACAGTCATGGTTGGGGGAATTAGTTGGAGCACGGCTTATTGCT CATGCAGGTTCTCTTTTAAATTTGGCCAAGCATGCAGCTTCTACCGTTCAGATTCTTGGAGCTGAAAAGGCACTT TTCAGAGCCCTCAAATCTAGACGGGATACCCCTAAGTATGGTCTCATTTATCATGCTTCACTCGTGGGCCAGACA AGTCCCAAACACAAAGGAAAGATTTCTCGAATGCTGGCAGCCAAAACCGTTTTGGCTATCCGTTATGATGCTTTT GGTGAGGATTCAAGTTCTGCAATGGGAGTTGAGAACAGAGCCAAATTAGAGGCCAGGTTGAGAACTTTGGAAGAC AGAGGGATAAGAAAAATAAGTGGAACAGGAAAAGCATTAGCAAAAACAGAAAAATATGAACACAAAAGTGAAGTG AAGACTTACGATCCTTCTGGTGACTCCACACTTCCAACCTGCTCTAAAAAACGCAAAATAGAACAGGTAGATAAA GAGGATGAAATTACTGAAAAGAAAGCCAAAAAAGCCAAGATTAAAGTTAAAGTTGAAGAAGAAGAAGAAAAAAA GTGGCAGAAGAAGAAGAACATCTGTGAAGAAGAAGAAGAAAAGGGGTAAAAAGAAACACATTAAGGAAGAACCA GAGAACGAGGATTAA

 ${\tt MPPKFDGATSALAPKIGPLGLSPKKVGDDIAKATGDWKGLRITVKLTIQNRQAQIEVVPSASALIIKALKEPPRDRKKQKNIKHSGNITFDEIVNIVRQMRHRSLARELSGTIKEILGTAQSVGCNVDGRHPHDIIDDINSGAVECPAS$

ATCGAAGATTTGATGGACATGGACATGAGCCTCCTGAGGCCCCAGAACTATCTTTTCGGTTGTGAACTAAAGGCC GACAAAGATGATCACTTTAAGGTGGATAATGATGAAAATGAGACCATCAGTTTAGGGGCTGGTGCAAGGGATGAA TTGCACATTGTTGAAGCAGAGGCCATGAATGATGAAGGCAGTCCAATTAAAGTCACACTGGCAACTTTGAAAATG TCTGTACAGCCAACTGCTTCCCTTGGGGGCTTTGAAATCACACCACCAGTGGTCTTACAGTTGAAGTGTGGTTCA GGGCCAGTGCATATTAGTAGACAGTGCTTAGTAGCTGTGGAGGAGATGCAGAGTCAGAAGATGAAGAGAGGAGGAG GATGTGAACCTCTTAAGCATATCTGGAAAGCGGTCTGCCTCTGGAGGTGGTAGCAAGGCGCCCAGCTACCGCGCC CACTGGTCAGAAGTGTGGCCAGCGTCTATGCAGGCCCTGGGAGCTCAGGGTGGCTTGGGGTCCAGGAGCATGGCC GCAGGTATGGCCGGGGTCTGGCAGGAATGGGAGGCATCCAGAACGAGAGGAGACCATGCAAAGCCTGAATGAC CGCCTGGCCTCCTACCTGGACAGAGTGAGGAGCCTGGAGATGGGAAACTGGAAGCTGGAGAGCAAAATCTGGGAG CACCTGGAGAAGAGGGACCCCAGGTCAGAGACTGGGGCCACTACTTCAAGACCATCGAGGAGGACCTGACTCAG ATCTTCACAAGTACTGTGGACAATACCTGCATCATTCTGCAGATCGACAATGCCCATCTTGCTGCTGATGACTTT AGAGTCAAGTATGAGACAGAGCCGGCCACGTGCCAGTCTGTGGAGAACGACATCCATGGGCTCCACAAGGTCATT GATGACACCAGTGTCACTCAGCTGCAGCTAGAGACAGAGATCGAGGCTCTCAAGGAGGAGCTGCTCTTCCTGAAG AAGAACCACGAAGAGGAAGTAAAAGGCCTACAAGCCCAGATTGCCAGCTCTGTTGACCATGGAGGCCTTGGAGAT CGACCTGGACTGGATGAAAAATCTGGAGGCCAGCTTGGAGAACAGCCTGAAGGGGGGGTGGAGGCCTGCTACACC CTGCAGATGGAACAACTCAATGGGATCCTGCACCTGGAGTCAGAGCTGGCACAGACCTGGGCAGAGGGACAG GGCCAGGCCCAGGAGTACCAGGCCCTGCCAAACATCAAGCAGCAACTCCACGCAAACCATCCAAAAGACTCCCAC CTGCCAACAGTGGATGGCAAAGTGGTGTCTGAGACCAATGACACCAAAGTTCTGAGACAT<u>TAA</u>

MEDLMDMDMSLLRPQNYLFGCELKADKDDHFKVDNDENETISLGAGARDELHIVEAEAMNDEGSPIKVTLATLKM SVQPTASLGGFEITPPVVLQLKCGSGPVHISRQCLVAVEEDAESEDEEEEDVNLLSISGKRSASGGGSKAPSYRA HWSEVWPASMQALGAQGGLGSRSMAAGMAGGLAGMGGIQNEKETMQSLNDRLASYLDRVRSLEMGNWKLESKIWE HLEKKGPQVRDWGHYFKTIEEDLTQIFTSTVDNTCIILQIDNAHLAADDFRVKYETEPATCQSVENDIHGLHKVI DDTSVTQLQLETEIEALKEELLFLKKNHEEEVKGLQAQIASSVDHGGLGDRPGLDEKSGGQLGEQPEGGVEACYT LQMEQLNGILLHLESELAQIWAEGQGQAQEYQALPNIKQQLHANHPKDSHLPTVDGKVVSETNDTKVLRH

GACAGTTTAGCAGAACAGCCTCCGCGGCTCCGGGGAGAAGCAATATCTTAAAGGATACCTGTAAGAAAGGCCTTAG TTGATGGTCAGTCTGTCATGGTGGAACCGGGAACGACCGTCCTCCAAGCTTGTGAGAAGGTTGGCATGCAGATCC $\tt CTCGATTCTGTTATCATGAAAGGTTGTCTGTTGCTGGAAACTGCAGGATGTGCCTTGTTGAAATTGAGAAAGCCCC$ CTAAGGTTGTAGCTGCTTGTGCCATGCCAGTAATGAAGGGTTGGAATATCCTAACAAACTCAGAAAAATCCAAAA AAGCCAGGGAAGGTGTGATGGAGTTCTTATTAGCAAATCACCCATTGGACTGTCCTATTTGTGACCAGGGAGGTG AATGTGATCTGCAGGACCAGTCCATGATGTTTGGAAATGATAGGAGCCGATTTTTAGAGGGGAAGCGTGCTGTGG AAGACAAGAACATTGGGCCATTGGTAAAGACCATCATGACAAGATGTATACAGTGTACTCGCTGCATCAGGTTTG AAAAGATGTTCATGTCTGAACTGTCTGGGAATATCATTGATATCTGCCCTGTAGGTGCCCTAACCTCTAAGCCCT ATGCCTTTACTGCCCGGCCTTGGGAAACAAGAAAGACAGAATCCATTGATGTAATGGATGCGGTTGGAAGTAATA TTGTGGTTAGCACAAGAACTGGAGAAGTGATGAGGATTTTGCCACGTATGCATGAGGACATCAATGAAGAGTGGA TCTCTGATAAAACCAGATTTGCCTATGATGGGCTAAAACGTCAAAGACTTACCGAGCCAATGGTCAGAAATGAAA AAGGGCTTTTAACCTATACTTCTTGGGAGGATGCGCTCTCTCGCGTAGCTGGAATGTTGCAGAGTTTTCAAGGCA AAGATGTGGCAGCAATTGCAGGTGGCTTGGTGGATGCTGAAGCCCTGGTAGCTCTCAAAGATTTGCTTAATAGAG TGGACTCTGACACCTTATGCACTGAAGAGGTCTTCCCCACTGCAGGAGCTGGCACAGATTTGCGTTCCAATTATC CACCACTGTTTAATGCTAGAATTCGAAAGAGCTGGCTGCATAATGACTTAAAAGTGGCCCTTATAGGCAGTCCAG TGGACCTCACTTACACATATGACCACCTGGGAGACTCCCCCAAAATTCTTCAAGACATTGCTTCGGGAAGCCATC CATTTAGCCAGGTCCTAAAGGAAGCTAAAAAACCAATGGTGGTTTTAGGCAGTTCTGCACTCCAAAGAAATGATG GAGCAGCAATTCTTGCAGCTGTTTCTAGCATTGCACAAAAGATTCGGATGACTAGTGGTGTTACTGGTGATTGGA AAGTTATGAATATCCTTCATAGGATTGCAAGTCAAGTAGCTGCTTTGGACCTTGGCTATAAGCCTGGGGTGGAAG CAATTCGGAAGAACCCTCCCAAGGTGCTGTTTCTCCTGGGAGCAGATGGAGGTTGTATCACACGACAGGATTTGC CAAAGGATTGTTTCATTATTTATCAAGGACATCATGGTGATGTTGGGGGCTCCCATAGCTGATGTTATTCTCCCAG GAGCTGCTTACACAGAGAAGTCTGCTACATATGTCAACACTGAGGGTAGAGCTCAGCAGACTAAGGTAGCAGTGA CACCTCCTGGCTTGGCAAGAGAGAGACTGGAAAATTATAAGAGCACTCTCTGAGATTGCTGGAATGACTCTTCCAT ATGATACTCTGGATCAAGTAAGGAACAGATTGGAAGAAGTCTCTCCTAATCTTGTTCGATATGATGATATTGAAG GGGCTAATTACTTCCAGCAAGCAAATGAGCTCTCAAAGCTAGTGAACCAGCAGCTTCTTGCTGACCCACTTGTTC CACCTCAGCTAACTATAAAAGACTTCTACATGACAGATTCAATTAGCAGAGCCTCACAGACAATGGCCAAATGTG AATAATTTGAATCATGTAATATTTAAGGTTATACTATGCCTATTTGAAAATGATATTAGTTATCAACTTTGCAGT TTGAAAAACATGTATTGTGTGTAAAGGTTAAATAACAAAACTATGCAGATGCTCTTAAAAAGCATTGATAACCTTT GTGACGAACATAAAGAGATCCTTAAATT

MLRIPVRKALVGLSKSPKGCVRTTATAASNLIEVFVDGQSVMVEPGTTVLQACEKVGMQIPRFCYHERLSVAGNC RMCLVEIEKAPKVVAACAMPVMKGWNILTNSEKSKKAREGVMEFLLANHPLDCPICDQGGECDLQDQSMMFGNDR SRFLEGKRAVEDKNIGPLVKTIMTRCIQCTRCIRFASEIAGVDDLGTTGRGNDMQVGTYIEKMFMSELSGNIIDI CPVGALTSKPYAFTARPWETRKTESIDVMDAVGSNIVVSTRIGEVMRILPRMHEDINEEWISDKTRFAYDGLKRQ RLTEPMVRNEKGLLTYTSWEDALSRVAGMLQSFQGKDVAAIAGGLVDAEALVALKDLLNRVDSDTLCTEEVFPTA GAGTDLRSNYLLNTTIAGVEEADVVLLVGTNPRFEAPLFNARIRKSWLHNDLKVALIGSPVDLTYTYDHLGDSPK ILQDIASGSHPFSQVLKEAKKPMVVLGSSALQRNDGAAILAAVSSIAQKIRMTSGVTGDWKVMNILHRIASQVAA LDLGYKPGVEAIRKNPPKVLFLLGADGGCITRQDLPKDCFIIYQGHHGDVGAPIADVILPGAAYTEKSATYVNTE GRAQQTKVAVTPPGLAREDWKIIRALSEIAGMTLPYDTLDQVRNRLEEVSPNLVRYDDIEGANYFQQANELSKLV NQQLLADPLVPPQLTIKDFYMTDSISRASQTMAKCVKAVTEGAQAVEEPSIC

FIGURE 949

MGFGDLKSPAGLQVLNDYLADKSYIEGYVPSQADVAVFEAVSSPPPADLCHALRWYNHIKSYEKEKASLPGVKKA LGKYGPADVEDTTGSGATDSKDDDDIDLFGSDDEEESEEAKRLREERLAQYESKKAKKPALVAKSSILLDVKPWD DETDMAKLEECVRSIQADGLVWGSSKLVPVGYGIKKLQIQCVVEDDKVGTDMLEEQITAFEDYVQSMDVAAFNKI

MGFGDLKSPAGLQVLNDYLADKSYIEGYVPSQADVAVFEAVSSPPPADLCHALRWYNHIKSYEKEKASLPGVKKA LGKYGPADVEDTTGSGATDSKDDDDIDLFGSDDEEESEEAKRLREERLAQYESKKAKKPALVAKSSILLDVKPWD DETDMAKLEECVRSIQADGLVWGSSKLVPVGYGIKKLQIQCVVEDDKVGTDMLEEQITAFEDYVQSMDVAAFNKI

CAAGGGGCGGGCCAAAACTGCGCGCCCAATCGGGGTGACGCTCTAGCCTTGCCGGGGACTCGTGGGTAACTTGC TTTTGGGAGCCAGCGGTATGGCGTCGGGCTGCAAGATTGGCCCGTCCATCCTCAACAGCGACCTGGCCAATTTAG ${\tt GGGCCGAGTGCTCCGG} \underline{\textbf{ATG}} {\tt CTAGACTCTGGGGCCGATTATCTGCACCTGGACGTAATGGACGGGCATTTTGTTCC}$ CATGATGGTGTCCAAGCCAGAACAGTGGGTAAAGCCAATGGCTGTAGCAGGAGCCAATCAGTACACCTTTCATCT CGAGGCTACTGAGAACCCAGGGGCTTTGATTAAAGACATTCGGGAGAATGGGATGAAGGTTGGCCTTGCCATCAA GGGGTTTGGAGGCCAGAATTCATGGAAGATATGATGCCAAAGGTTCACTGGTTGAGGACCCAGTTCCCATCTTT GGATATAGAGGTCGATGGTGGAGTAGGTCCTGACACTGTCCATAAATGTGCAGAGGCAGGAGCTAACATGATTGT GTCTGGCAGTGCTATTATGAGGAGTGAAGACCCCAGATCTGTGATCAATCTATTAAGAAATGTTTGCTCAGAAGC $\texttt{TGCTCAGAAACGTTCTCTTGATCGG} \underline{\textbf{TGA}} \texttt{AACCATAAGGAGCCCAGTGTTCCTGTTCATGAAATCTCCCTTTTACT}$ AGTGATTAAAACTGATTGTGCAGAATATTCTAAGAGGTCAGAAATTGGTGTGTATAACTACATTTTTAGTGATGC AATTTATTGATTAGTGAGTAAGATACTGTTTTTATTGAGAGATTTGATTTTTATAAAGTAAAAATACGGCTGCAT TAGGGTTACAAACAGAAAAGTGTCTTAATGTCTAAGGAGGGCATATTAGCTACACTACAAAAAACAAATTTTGTCT GTACTTCTGAAAAGAATTTTGTTGTTTCTCAGCTGTTTTCCAAAAGCAAAGGAAGTCTTTATGGTTTTTTCTAT TTCATGTTATTGTGATTTGTTTATAAGTTTGGGTGGGGTGCATACCATATTCTTGGTTCTTAAAATCTATCACTT TTCACCTTACACTTGATGTGTGAAAACTATAAAAACAATGTGTGAAACCCAGGGGTTCTAAAATACAAGCATAGA TTTTATCAGGGTGTTTTGTCAAAGCAGGTTATTCAGTGATTCCTCCCCACCATTCTTAAGAACGTTAAATAATGC TGTTGTGTTAGCTCTGAGTAGAAAGGAAAAAGTAAAACCTCTGTTTGGAGGTAATATTGGGTTGAATTCTGACTG CCCCTTTCTAGCTGGACCTTTAACAAATCACCCAATCTTTTTTGTGTTTCTCTAAAGTCATTTATACATTAAATG TAATTATAGCAACTGTGGGGTTCTGTTGAGAATTAAGAGCTAACACTATATATGTAAAGTTTCCAGTACTAGTCC CAGAATTTAGAATATGCTCAACACAAAGTAAACAGCATTATATAAGTTTATATTTTTTGTGAGTTATAAAGTACTT TTTAAAAAATGAAGAAATTAATGCTTAATAGGGTGGTACCCTGGAAAGGATCTGGGAAGTGGTAGAATTTCTGGT CTGTACTTTTACAAATGGAGCCCTTGGGAGGTGGGTTAGGTAAAAGAAGCTTTTTACTTAACGTTGTCTTATTTC CAGTCTAATTTTACGCTGTAGCAGAACCAGATGGCTGAGAAAATTCTGGAACTATGGATCTTGACCCCAAGGATA TATTATTTTATTCCAAGAAAGATCAGGTAGGCGAAAAGATGACAGGATACAGAGTCAATCCATAAACTAAATATT TATAACTGTTCTGAATTATACAGAGTCTAAAAATATGTGTCAGCTACTTCATTCCTGTAAATACTCTTGCTGTGT TATAAATATGGCAAGAAATAAACATGACCAATATCAATAGACTTCTTGAGGCTACTATAAGTTTTGAGAAATAAG AAATTTGTTAATGTTTGTTTTTATTCAGCTTGGGAAAGCTTTGTGCCATGAATACGTCGCATTTAATAACAAGCA ACACACGGCATATAGAAATAACTTTAATTAAAAAAACTTACATAGAAGATTATAATATCAGACGTGACAAAGATTT ACTAC

MLDSGADYLHLDVMDGHFVPNITFGHPVVESLRKQLGQDPFFDMHMMVSKPEQWVKPMAVAGANQYTFHLEATEN PGALIKDIRENGMKVGLAIKPGTSVEYLAPWANQIDMALVMTVEPGFGGQKFMEDMMPKVHWLRTQFPSLDIEVD GGVGPDTVHKCAEAGANMIVSGSAIMRSEDPRSVINLLRNVCSEAAQKRSLDR

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1021/6881 FIGURE 954A

TIGTTATGGAGGAAGCCGAGGTTTTAACTGCGAGAGTAAACCTGAAGCTGAAGAGACTTGCTTTGACAAGTACAC TGGGAACACTTACCGAGTGGGTGACACTTATGAGCGTCCTAAAGACTCCATGATCTGGGACTGTACCTGCATCGG GGCTGGGCGAGGGAGAATAAGCTGTACCATCGCAAACCGCTGCCATGAAGGGGGTCAGTCCTACAAGATTGGTGA GACCTGCAAGCCCATAGCTGAGAAGTGTTTTGATCATGCTGCTGGGACTTCCTATGTGGTCGGAGAAACGTGGGA GAAGCCCTACCAAGGCTGGATGATGGTAGATTGTACTTGCCTGGGAGAAGGCAGCGGACGCATCACTTGCACTTC TAGAAATAGATGCAACGATCAGGACACAAGGACATCCTATAGAATTGGAGACACCTGGAGCAAGAAGGATAATCG AGGAAACCTGCTCCAGTGCATCTGCACAGGCAACGGCCGAGGAGAGTGGAAGTGTGAGAGGCACACCTCTGTGCA GACCACATCGAGCGGATCTGGCCCCTTCACCGATGTTCGTGCAGCTGTTTACCAACCGCAGCCTCACCCCAGCC AAATAAGCAAATGCTTTGCACGTGCCTGGGCAACGGAGTCAGCTGCCAAGAGACAGCTGTAACCCAGACTTACGG TGGCAACTCAAATGGAGAGCCATGTGTCTTACCATTCACCTACAATGGCAGGACGTTCTACTCCTGCACCACAGA AGGGCGACAGGACGGACATCTTTGGTGCAGCACAACTTCGAATTATGAGCAGGACCAGAAATACTCTTTCTGCAC AGACCACACTGTTTTGGTTCAGACTCGAGGAGGAAATTCCAATGGTGCCTTGTGCCACTTCCCTTCCTATACAA CAACCACAATTACACTGATTGCACTTCTGAGGGCAGAAGAGAGACATGAAGTGGTGTGGGACCACACAGAACTA TGATGCCGACCAGAAGTTTGGGTTCTGCCCCATGGCTGCCCACGAGGAAATCTGCACAACCAATGAAGGGGTCAT GTACCGCATTGGAGATCAGTGGGATAAGCAGCATGACATGGGTCACATGATGAGGTGCACGTGTTTGGGAATGG TCGTGGGGAATGGACATGCATTGCCTACTCGCAGCTTCGAGATCAGTGCATTGTTGATGACATCACTTACAATGT GAACGACACTTCCACAAGCGTCATGAAGAGGGGCACATGCTGAACTGTACATGCTTCGGTCAGGGTCGGGGCAG GTGGAAGTGTGATCCCGTCGACCAATGCCAGGATTCAGAGACTGGGACGTTTTATCAAATTGGAGATTCATGGGA GAAGTATGTGCATGGTGTCAGATACCAGTGCTACTGCTATGGCCGTGGCATTGGGGAGTGGCATTGCCAACCTTT ACAGACCTATCCAAGCTCAAGTGGTCCTGTCGAAGTATTTATCACTGAGACTCCGAGTCAGCCCAACTCCCACCC CATCCAGTGGAATGCACCACAGCCATCTCACATTTCCAAGTACATTCTCAGGTGGAGACCTAAAAATTCTGTAGG CCGTTGGAAGGAAGCTACCATACCAGGCCACTTAAACTCCTACACCATCAAAGGCCTGAAGCCTGGTGTATA CGAGGGCCAGCTCATCAGCATCCAGCAGTACGGCCACCAAGAAGTGACTCGCTTTGACTTCACCACCACCAGCAC CAGCACACCTGTGACCAGCAACACCGTGACAGGAGAGACGACTCCCTTTTCTCCTCTTGTGGCCACTTCTGAATC TGTGACCGAAATCACAGCCAGTAGCTTTGTGGTCTCCTGGGTCTCAGCTTCCGACACCGTGTCGGGATTCCGGGT GGAATATGAGCTGAGTGAGGAGGGGGGAGATGAGCCACAGTACCTGGATCTTCCAAGCACAGCCACTTCTGTGAACAT CCCTGACCTGCTTCCTGGCCGAAAATACATTGTAAATGTCTATCAGATATCTGAGGATGGGGAGCAGAGTTTGAT CCTGTCTACTTCACAAACAACAGCGCCTGATGCCCCTCCTGACACGACTGTGGACCAAGTTGATGACACCTCAAT TGTTGTTCGCTGGAGCAGACCCCAGGCTCCCATCACAGGGTACAGAATAGTCTATTCGCCATCAGTAGAAGGTAG CAGCACAGAACTCAACCTTCCTGAAACTGCAAACTCCGTCACCCTCAGTGACTTGCAACCTGGTGTTCAGTATAA CATCACTATCTATGCTGTGGAAGAAATCAAGAAAGTACACCTGTTGTCATCAACAAGAAACCACTGGCACCCC ACGCTCAGATACAGTGCCCTCTCCCAGGGACCTGCAGTTTGTGGAAGTGACAGACGTGAAGGTCACCATCATGTG GAGGCTGCCCATCAGCAGGAACACCTTTGCAGAAGTCACCGGGCTGTCCCCTGGGGTCACCTATTACTTCAAAGT CTTTGCAGTGAGCCATGGGAGGGAGGCAAGCCTCTGACTGCTCAACAGACAACCAAACTGGATGCTCCCACTAA CCTCCAGTTTGTCAATGAAACTGATTCTACTGTCCTGGTGAGATGGACTCCACCTCGGGCCCAGATAACAGGATA CCGACTGACCGTGGGCCTTACCCGAAGAGGACAGCCCAGGCAGTACAATGTGGGTCCCTCTGTCTCCAAGTACCC ACTGAGGAATCTGCAGCCTGCATCTGAGTACACCGTATCCCTCGTGGCCATAAAGGGCAACCAAGAGAGCCCCAA AGCCACTGGAGTCTTTACCACACTGCAGCCTGGGAGCTCTATTCCACCTTACAACACCGAGGTGACTGAGACCAC CATTGTGATCACATGGACGCCTGCTCCAAGAATTGGTTTTAAGCTGGGTGTACGACCAAGCCAGGGAGGAGAGGC ACCACGAGAAGTGACTTCAGACTCAGGAAGCATCGTTGTGTCCGGCTTGACTCCAGGAGTAGAATACGTCTACAC CATCCAAGTCCTGAGAGATGGACAGGAAAGAGATGCGCCAATTGTAAACAAAGTGGTGACACCATTGTCTCCACC AACAAACTTGCATCTGGAGGCAAACCCTGACACTGGAGTGCTCACAGTCTCCTGGGAGGAGGAGCACCACCCAGA CATTACTGGTTATAGAATTACCACAACCCCTACAAACGGCCAGCAGGGAAATTCTTTGGAAGAAGTGGTCCATGC

1022/6881 FIGURE 954B

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TGATCAGAGCTCCTGCACTTTTGATAACCTGAGTCCCGGCCTGGAGTACAATGTCAGTGTTTACACTGTCAAGGA TGACAAGGAAAGTGTCCCTATCTCTGATACCATCATCCCAGCTGTTCCTCCCACTGACCTGCCGATTCACCAA CTCACCTGTGAAAAATGAGGAAGATGTTGCAGAGTTGTCAATTTCTCCTTCAGACAATGCAGTGGTCTTAACAAA TCTCCTGCCTGGTACAGAATATGTAGTGAGTGTCTCCAGTGTCTACGAACAACATGAGAGCACCCTCTTAGAGG AAGACAGAAAACAGGTCTTGATTCCCCCAACTGGCATTGACTTTTCTGATATTACTGCCAACTCTTTTACTGTGCA CTGGATTGCTCCTCGAGCCACCATCACTGGCTACAGGATCCGCCATCATCCCGAGCACTTCAGTGGGAGACCTCG AGAAGATCGGGTGCCCCACTCTCGGAATTCCATCACCCTCACCAACCTCACTCCAGGCACAGAGTATGTGGTCAG GGACCTGGAAGTTGTTGCTGCGACCCCCACCAGCCTACTGATCAGCTGGGATGCTCCTGCTGTCACAGTGAGATA TTACAGGATCACTTACGGAGAGACAGGAGGAAATAGCCCTGTCCAGGAGTTCACTGTGCCTGGGAGCAAGTCTAC AGCTACCATCAGCGGCCTTAAACCTGGAGTTGATTATACCATCACTGTGTATGCTGTCACTGGCCGTGGAGACAG CCCCGCAAGCAGCCAATTTCCATTAATTACCGAACAGAAATTGACAAACCATCCCAGATGCAAGTGACCGA TGTTCAGGACAACAGCATTAGTGTCAAGTGGCTGCCTTCAAGTTCCCCTGTTACTGGTTACAGAGTAACCACCAC TCCCAAAAATGGACCAGGACCAACAAAAACTAAAACTGCAGGTCCAGATCAAACAGAAATGACTATTGAAGGCTT GCAGCCCACAGTGGAGTATGTGGTTAGTGTCTATGCTCAGAATCCAAGCGGAGAGAGTCAGCCTCTGGTTCAGAC IGCAGTAACCAACATTGATCGCCCTAAAGGACTGGCATTCACTGATGTGGATGTCGATTCCATCAAAATTGCTTG GGAAAGCCCACAGGGGCAAGTTTCCAGGTACAGGGTGACCTACTCGAGCCCTGAGGATGGAATCCATGAGCTATT GGTTGCCTTGCACGATGATATGGAGAGCCAGCCCCTGATTGGAACCCAGTCCACAGCTATTCCTGCACCAACTGA CCTGAAGTTCACTCAGGTCACACCCACAAGCCTGAGCGCCCAGTGGACACCACCCAATGTTCAGCTCACTGGATA ACCAGCTCAGGGAGTTGTCACCACTCTGGAGAATGTCAGCCCACCAAGAAGGGCTCGTGTGACAGATGCTACTGA GACCACCATCACCATTAGCTGGAGAACCAAGACTGAGACGATCACTGGCTTCCAAGTTGATGCCGTTCCAGCCAA TGGCCAGACTCCAATCCAGAGAACCATCAAGCCAGATGTCAGAAGCTACACCATCACAGGTTTACAACCAGGCAC TGACTACAAGATCTACCTGTACACCTTGAATGACAATGCTCGGAGCTCCCCTGTGGTCATCGACGCCTCCACTGC CATTGATGCACCATCCAACCTGCGTTTCCTGGCCACCACACCCAATTCCTTGCTGGTATCATGGCAGCCGCCACG TGCCAGGATTACCGGCTACATCATCAAGTATGAGAAGCCTGGGTCTCCTCCCAGAGAAGTGGTCCCTCGGCCCCG CCCTGGTGTCACAGAGGCTACTATTACTGGCCTGGAACCGGGAACCGAATATACAATTTATGTCATTGCCCTGAA GTATGACACTGGAAATGGTATTCAGCTTCCTGGCACTTCTGGTCAGCAACCCAGTGTTGGGCAACAAATGATCTT TGAGGAACATGGTTTTAGGCGGACCACACCGCCCACAACGGCCACCCCCATAAGGCATAGGCCAAGACCATACCC GCCGAATGTAGGACAAGAAGCTCTCTCTCAGACAACCATCTCATGGGCCCCATTCCAGGACACTTCTGAGTACAT CATTTCATGTCATCCTGTTGGCACTGATGAAGAACCCTTACAGTTCAGGGTTCCTGGAACTTCTACCAGTGCCAC TCTGACAGGCCTCACCAGAGGTGCCACCTACAACGTCATAGTGGAGGCACTGAAAGACCAGCAGAGGCATAAGGT CCCCTACACAGTTTCCCATTATGCCGTTGGAGATGAGTGGGGAACGAATGTCTGAATCAGGCTTTAAACTGTTGTG CCAGTGCTTAGGCTTTGGAAGTGGTCATTTCAGATGTGATTCATCTAGATGGTGCCATGACAATGGTGTGAACTA CAAGATTGGAGAGAAGTGGGACCGTCAGGGAGAAAATGGCCAGATGATGAGCTGCACATGTCTTGGGAACGGAAA AGGAGAATTCAAGTGTGACCCTCATGAGGCAACGTGTTATGATGATGGGAAGACATACCACGTAGGAGAACAGTG GCAGAAGGAATATCTCGGTGCCATTTGCTCCTGCACATGCTTTGGAGGCCAGCGGGGCTGGCGCTGTGACAACTG CCGCAGACCTGGGGGTGAACCCAGTCCCGAAGGCACTACTGGCCAGTCCTACAACCAGTATTCTCAGAGATACCA TCAGAGAACAACACTAATGTTAATTGCCCAATTGAGTGCTTCATGCCTTTAGATGTACAGGCTGACAGAGAAGA TTCCCGAGAGTAAATCATCTTTCCAATCCAGAGGAACAAGCATGTCTCTCTGCCAAGATCCATCTAAACTGGAGT GATGTTAGCAGACCCAGCTTAGAGTTCTTCTTTCTTTAAGCCCTTTGCTCTGGAGGAAGTTCTCCAGCTTCA GCTCAACTCACAGCTTCTCCAAGCATCACCCTGGGAGTTTCCTGAGGGTTTTCTCATAAATGAGGGCTGCACATT

1023/6881 FIGURE 954C

GCCTGTTCTGCTTCGAAGTATTCAATACCGCTCAGTATTTTAAATGAAGTGATTCTAAGATTTGGTTTGGGATCA
ATAGGAAAGCATATGCAGCCAACCAAGATGCAAATGTTTTGAAATGATCAAGAACCAAAAATTTTAAGTAGGAAAGCT
ACCCAAACACTTCTGCTTTCACTTAAGTGTCTGGCCCGCAATACTGTAGGAACAAGCATGATCTTGTTACTGTGA
TATTTTAAATATCCACAGTACTCACTTTTTCCAAATGATCCTAGTAATTGCCTAGAAATATCTTTCTCTTACCTG
TTATTTATCAATTTTCCCAGTATTTTTATACGGAAAAAATTGTATTGAAAACACTTAGTATGCAGTTGATAAGA
GGAATTTGGTATAATTATGGTGGGTGATTATTTTTATACTGTATGTGCCAAAGCTTTACTACTGTGGAAAGACA
ACTGTTTTAATAAAAGATTTACATTCC

CGGCAGCCCTCCTACCTGCGCACGTGGTGCCGCTGCTGCTGCCTCCCGCTCGCCCTGAACCCAGTGCCTGCAGCC ATGCCCCCGCCCAGCTCGCCTTATTTAGTGTCTCTGACAAAACCGGCCTTGTGGAATTTGCAAGAAACCTGACC GCTCTTGGTTTGAATCTGGTCGCTTCCGGAGGGACTGCAAAAGCTCTCAGGGATGCTGGTCTGGCAGTCAGAGAT GTCTCTGAGTTGACGGGATTTCCTGAAATGTTGGGGGGGACGTGTGAAAACTTTGCATCCTGCAGTCCATGCTGGA ATCCTAGCTCGTAATATTCCAGAAGATAATGCTGACATGGCCAGACTTGATTTCAATCTTATAAGAGTTGTTGCC TGCAATCTCTATCCCTTTGTAAAGACAGTGGCTTCTCCAGGTGTAACTGTTGAGGAGGCTGTGGAGCAAATTGAC ATTGGTGGAGTAACCTTACTGAGAGCTGCAGCCAAAAACCACGCTCGAGTGACAGTGGTGTGTGAACCAGAGGAC TATGTGGTGGTGTCCACGGAGATGCAGAGCTCCGAGAGTAAGGACACCTCCTTGGAGACTAGACGCCAGTTAGCC TTGAAGGCATTCACTCATACGGCACAATATGATGAAGCAATTTCAGATTATTTCAGGAAACAGTACAGCAAAGGC GTATCTCAGATGCCCTTGAGATATGGAATGAACCCACATCAGACCCCTGCCCAGCTGTACACACTGCAGCCCAAG CTTCCCATCACAGTTCTAAATGGAGCCCCTGGATTTATAAACTTGTGCGATGCTTTGAACGCCTGGCAGCTGGTG AAGGAACTCAAGGAGGCTTTAGGTATTCCAGCCGCTGCCTCTTTCAAACATGTCAGCCCAGCAGGTGCTGCTGTT GGAATTCCACTCAGTGAAGATGAGGCCAAAGTCTGCATGGTTTATGATCTCTATAAAACCCTCACACCCATCTCA ${\tt GCGGCATATGCAAGAGCAAGAGGGGCTGATAGGATGTCTTCATTTGGTGATTTTGTTGCATTGTCCGATGTTTGT}$ GATGTACCAACTGCAAAAATTATTTCCAGAGAAGTATCTGATGGTATAATTGCCCCAGGATATGAAGAAGAAGCC TTGACAATACTTTCCAAAAAGAAAATGGAAACTATTGTGTCCTTCAGATGGACCAATCTTACAAACCAGATGAA AATGAAGTTCGAACTCTCTTTGGTCTTCATTTAAGCCAGAAGAGAAATAATGGTGTCGTCGACAAGTCATTATTT AGCAATGTTGTTACCAAAAATAAAGATTTGCCAGAGTCTGCCCTCCGAGACCTCATCGTAGCCACCATTGCTGTC AAGTACACTCAGTCTAACTCTGTGTGCTACGCCAAGAACGGGCAGGTTATCGGCATTGGAGCAGGACAGCAGTCT $\tt CGTATACACTGCACTCGCCTTGCAGGAGATAAGGCAAACTATTGGTGGCTTAGACACCATCCACAAGTGCTTTCG$ ATGAAGTTTAAAACAGGAGTGAAGAGAGAGAAATCTCCAATGCCATCGATCAATATGTGACTGGAACCATTGGC GAGGATGAAGATTTGATAAAGTGGAAGGCACTGTTTGAGGAAGTCCCTGAGTTACTCACTGAGGCAGAAGAAGAAG GAATGGGTTGAGAAACTGACTGAAGTTTCTATCAGCTCTGATGCCTTCTCCCTTTCCGAGATAACGTAGACAGA ${\tt GCTAAAAGGAGTGGTGGGGGTACATTGCGGCTCCCTCCGGTTCTGCTGACAAAGTTGTGATTGAGGCCTGC}$ ${\tt GACGAACTGGGAATCATCCTCGCTCATACGAACCTTCGGCTCTTCCACCACTGATTTTACCACACACTGTTTTTT}$ CTTAAAACAATGTTTTGATCTACATAAACATTGTAAAAATTTTCAATCACGCTTTTTAACTTTCTTACCACAAAA AAATGATAAGTGGGTGAAGTGATGGTTATGTTAATTAGCGTGC

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1025/6881 FIGURE 956

MAPGQLALFSVSDKTGLVEFARNLTALGLNLVASGGTAKALRDAGLAVRDVSELTGFPEMLGGRVKTLHPAVHAG ILARNIPEDNADMARLDFNLIRVVACNLYPFVKTVASPGVTVEEAVEQIDIGGVTLLRAAAKNHARVTVVCEPED YVVVSTEMQSSESKDTSLETRRQLALKAFTHTAQYDEAISDYFRKQYSKGVSQMPLRYGMNPHQTPAQLYTLQPK LPITVLNGAPGFINLCDALNAWQLVKELKEALGIPAAASFKHVSPAGAAVGIPLSEDEAKVCMVYDLYKTLTPIS AAYARARGADRMSSFGDFVALSDVCDVPTAKIISREVSDGIIAPGYEEEALTILSKKKNGNYCVLQMDQSYKPDE NEVRTLFGLHLSQKRNNGVVDKSLFSNVVTKNKDLPESALRDLIVATIAVKYTQSNSVCYAKNGQVIGIGAGQQS RIHCTRLAGDKANYWWLRHHPQVLSMKFKTGVKRAEISNAIDQYVTGTIGEDEDLIKWKALFEEVPELLTEAEKK EWVEKLTEVSISSDAFFPFRDNVDRAKRSGVAYIAAPSGSAADKVVIEACDELGIILAHTNLRLFHH

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1026/6881 FIGURE 957

FIGURE 958

GGCGGGCGACCAAAGCGCCTGAGGACCGGCAAC<u>ATG</u>GTGCGGTCGGGGAATAAGGCAGCTGTTGTGCTGTATG GACGTGGGCTTTACCATGAGTAACTCCATTCCTGGTATAGAATCCCCATTTGAACAAGCAAAGAAGGTGATAACC ATGTTTGTACAGCGACAGGTGTTTGCTGAGAACAAGGATGAGATTGCTTTAGTCCTGTTTGGTACAGATGGCACT GACAATCCCCTTTCTGGTGGGGATCAGTATCAGAACATCACAGTGCACAGACATCTGATGCTACCAGATTTTGAT TTGCTGGAGGACATTGAAAGCAAAATCCAACCAGGTTCTCAACAGGCTGACTTCCTGGATGCACTAATCGTGAGC ATGGATGTGATTCAACATGAAACAATAGGAAAGAAGTTTGAGAAGAGGCATATTGAAATATTCACTGACCTCAGC AGCCGATTCAGCAAAAGTCAGCTGGATATTATAATTCATAGCTTGAAGAAATGTGACATCTCCCTGCAATTCTTC TTGCCTTTCTCACTTGGCAAGGAAGATGGAAGTGGGGACAGAGGAGATGGCCCCTTTCGCTTAGGTGGCCATGGG CCTTCCTTTCCACTAAAAGGAATTACCGAACAGCAAAAAGAAGGTCTTGAGATAGTGAAAATGGTGATGATATCT ATTGAGAGGCATTCCATTCACTGGCCCTGCCGACTGACCATTGGCTCCAATTTGTCTATAAGGATTGCAGCCTAT CAAAAAGAAACAGTTTATTGCTTAAATGATGATGATGAAACTGAAGTTTTAAAAGAGGATATTATTCAAGGGTTC CGCTATGGAAGTGATATAGTTCCTTTCTCTAAAGTGGATGAGGAACAAATGAAATATAAATCGGAGGGAAGTGC TTCTCTGTTTTGGGATTTTGTAAATCTTCTCAGGTTCAGAGAAGATTCTTCATGGGAAATCAAGTTCTAAAGGTC TTTGCAGCAAGAGATGATGAGGCAGCTGCAGTTGCACTTTCCTCCCTGATTCATGCTTTGGATGACTTAGACATG GTGGCCATAGTTCGATATGCTTATGACAAAAGAGCTAATCCTCAAGTCGGCGTGGCTTTTCCTCATATCAAGCAT AACTATGAGTGTTTAGTGTATGTGCAGCTGCCTTTCATGGAAGACTTGCGGCAATACATGTTTTCATCCTTGAAA AAGAAAGATGAGAAGACAGACACCTTGAAGACTTGTTTCCAACCACCAAAATCCCAAATCCTCGATTTCAGAGA TTATTTCAGTGTCTGCTGCACAGAGCTTTACATCCCCGGGAGCCTCTACCCCCAATTCAGCAGCATATTTGGAAT ATGCTGAATCCTCCCGCTGAGGTGACAACAAAAAGTCAGATTCCTCTCTAAAATAAAGACCCTTTTTCCTCTG ATTGAAGCCAAGAAAAAGGATCAAGTGACTGCTCAGGAAATTTTCCAAGACAACCATGAAGATGGACCTACAGCT AAAAATTAAAGACTGAGCAAGGGGGGGCCCACTTCAGCGTCTCCAGTCTGGCTGAAGGCAGTGTCACCTCTGTT GGAAGTGTGAATCCTGCTGAAAACTTCCGTGTTCTAGTGAAACAGAAGAAGGCCAGCTTTGAGGAAGCGAGTAAC CAGCTCATAAATCACATCGAACAGTTTTTGGATACTAATGAAACACCGTATTTTATGAAGAGCATAGACTGCATC CGAGCCTTCCGGGAAGAAGCCATTAAGTTTTCAGAAGAGCAGCGCTTTAACAACTTCCTGAAAGCCCTTCAAGAG AAAGTGGAAATTAAACAATTAAATCATTTCTGGGAAATTGTTGTCCAGGATGGAATTACTCTGATCACCAAAGAG GAAGCCTCTGGAAGTTCTGTCACAGCTGAGGAAGCCAAAAAGTTTCTGGCCCCCAAAGACAAACCAAGTGGAGAC ${\tt ACAGCAGCTGTATTTGAAGAAGGTGGTGATGTGGACGATTTATTGGACATGATA{\color{red}{T}}{\color{blue}{AC}}{\color{blue}{GTCGTGGATGTATTGGGGAA}}$ ATCTAAGAGAGCTGCCATCGCTGTGATGCTGGGAGTTCTAACAAAACAAGTTGGATGCGGCCATTCAAGGGGAGC TTTTCTGTGGTCTTACTGATCTTTGTATATTACATACATGCTTTGAAGTTTCTGGAAAGTAGATCTTTTCTTGAC GTTGAGGCCTTCTAGTTACCACATTACTCTGCCTCTGTATATAGGTGGTTTTCTTTAAGTGGGGTGGGAAGGGGA GCACAATTTCCCTTCATACTCCTTTTAAGCAGTGAGTTATGGTGGTGGTCTCATGAAGAAAAAGACCTTTTGGCCC AATCTCTGCCATATCAGTGAACCTTTAGAAACTCAAAAACTGAGAAATTTACTTCAGTAGTTAGAATTATATCAC TTCACTGTTCTCTACTTGCAAGCCTCAAAGAGAGAAAGTTTCGTTATATTAAAACACTTAGGTAACTTTTCGGTC TTTCCCATTTCTACCTAAGTCAGCTTTCATCTTTGTGGATGGTGTCTCCTTTACTAAATAAGAAAATAACAAAGC CCTTATTCTCTTTTTTCTTGTCCTCATTCTTGCCTTGAGTTCCAGTTCCTCTTTGGTGTACAGACTTCTTGGTA CCCAGTCACCTCTGTCTTCAGCACCCTCATAAGTCGTCACTAATACACAGTTTTGTACATGTAACATTAAAGGCA TAAATGACTC

MVRSGNKAAVVLCMDVGFTMSNSIPGIESPFEQAKKVITMFVQRQVFAENKDEIALVLFGTDGTDNPLSGGDQYQ
NITVHRHLMLPDFDLLEDIESKIQPGSQQADFLDALIVSMDVIQHETIGKKFEKRHIEIFTDLSSRFSKSQLDII
IHSLKKCDISLQFFLPFSLGKEDGSGDRGDGPFRLGGHGPSFPLKGITEQQKEGLEIVKMVMISLEGEDGLDEIY
SFSESLRKLCVFKKIERHSIHWPCRLTIGSNLSIRIAAYKSILQERVKKTWTVVDAKTLKKEDIQKETVYCLNDD
DETEVLKEDIIQGFRYGSDIVPFSKVDEEQMKYKSEGKCFSVLGFCKSSQVQRRFFMGNQVLKVFAARDDEAAAV
ALSSLIHALDDLDMVAIVRYAYDKRANPQVGVAFPHIKHNYECLVYVQLPFMEDLRQYMFSSLKNSKKYAPTEAQ
LNAVDALIDSMSLAKKDEKTDTLEDLFPTTKIPNPRFQRLFQCLLHRALHPREPLPPIQQHIWNMLNPPAEVTTK
SQIPLSKIKTLFPLIEAKKKDQVTAQEIFQDNHEDGPTAKKLKTEQGGAHFSVSSLAEGSVTSVGSVNPAENFRV
LVKQKKASFEEASNQLINHIEQFLDTNETPYFMKSIDCIRAFREEAIKFSEEQRFNNFLKALQEKVEIKQLNHFW
EIVVQDGITLITKEEASGSSVTAEEAKKFLAPKDKPSGDTAAVFEEGGDVDDLLDMI

1029/6881 FIGURE 960A

GACCAGGCAGGGGCCCAACTTTCACGTCCAGCCCTGGCCTGGGGTCGGGAGAGGTGGGCGCTAGAAGATGCAGCC ${\tt CACTCCAGGACCTCTCCCGGATCTGTCTCCTCTTAGCCAGCAGTATGGACAGCTGGACCCCTGAACTTCCTCT}$ CCTCTTACCTGGGCAGAGTGTTGTCTCCCCCAAATTTATAAAAACTAAAATGCATTCCATTCCTCTGAAAGCAA AACAAATTCATAATTGAGTGATATTAAATAGAGAGGTTTTCGGAAGCAGATCTGTGAATATGAAATACATGTGCA TATTTCATTCCCCAGGCAGACATTTTTTAGAAATCAATACATGCCCCAATATTGGAAAGACTTGTTCTTCCACGG TGACTACAGTACATGCTGAAGCGTGCCGTTTCAGCCCTCATTTAATTCAATTTGTAAGTAGCGCAGCAGCCTCTG TGGGGGAGGATAGGCTGAAAAAAAAGTGGGCTCGTATTTATCTACAGGACTCCATATAGTCATATATAGGCAT TCCTATAGGGGCATTGAGGAGCTTCCTCATTCTGGGAAAACTGAGAAAACCCATATTCTCCTAATACAACCCGTA ATAGCATTTTTGCCTGCCTCGAGGCAGAGTTTCCCGTGAGCAATAAACTCAGCTTTTTTGTGGGGCACAGTACTG ACAGCACGCCCTCAGTCCATCCCATTTTAGTCTTTAAACCCTCAGGAAGTCACAGTCTCCGGACACCACCACCAC ATGAGCCCAACAGGTCCACGATGGATCCACCAGTCCCACCCCAGCCTTTTCCTTTCATCTGAACAGAATGTGCAT GGGCTGAAGGGAGAGGGGGCTGACTGTTCCATTCTAGCTTTTGGCACAAAGCAGCAGAAAGGGGGAAAAGCCAATA GAAATTTCCTTAGCTTCCCCACCATATGTATTTTCTAGGATTTGAGAGGAAAGAGAGAAAATGGGGGAATGGGT TGCAAAATAGAAATGAGCTTAATCCAGGCCGCAGAGCCAGGGAAGGTGAGTAACTTTAGGAGGGTGCTAGACTTT AGAAGCCAGATAGGAAGAATCAGTCTAAACTGGCCATGCTTTGGAAGGGACAAGACTATGTGCTCCGCTGCCCAC $\tt CTTCAGCCTGCAATGAGGGACTGAGGCCCACGAGTCTTTCCAGCTCTTCCATTCTGGCCAGTCCCTGCATCC$ TCCCTGGGGTGGAGGATGGAAGGAAAGCTGGGACAAGCAGGGAACGCATGATTCAGGGATGCTGTCACTCGGCAG CCAGATTCCGAAACTCCCATTCTCCAATGACTTCCTCAACCAATGGGTGGCCTTGTGACTGTTCTTTAAGGCTGA AGATATCCAGGAAAGGGGGCTTGGACACTGGCCAAGGAGACCCCTTCGTGCTGTGGACACAGCTCTCTTCACTCT TTGCTCATGGCATGACACGCGGAGACCGCCTCCAACAACGAATTTGGGGCTACGAAGAGGAATAGCGAAAAAAGC AAATCTGTTTCAACTGATGGGAACCCTATAGCTATAGAACTTGGGGGGCTATCTCCTATGCCCCTGGACAGGACAG TTGGCTGGGGACAGGAGAGTGCTCAATCTTCATGAGACAAAGGGGCCCGATAGGGCCCAGCAGCCACAAGGCCTT GACCTGCCGAGTCAGCATGCCCCATCTCTCTGCACAGCTGTCCCCTAAACCCAACTCACGTTTCTGTATGTCTTA GGCCAGTATCCCAAACCTCTTCCACGTCACTGTTCTTTCCACCCATTCTCCCTTTGCATCTTGAGCAGTTATCCA ACTAGGATCTGCCAAGTGGATACTGGGGTGCCACTCCCCTGAGAAAAGACTGAGCCAGGAACTACAAGCTCCCCC CTTCTGCCCCTTGCGTTGGCTCTTTGCTGCCAGCCATCAGGTGGGGGGATTAGAGCCTGGTGTAAGTGCGCCAGAC CAGCTGGTCACTCCCCAGAGAAGCTGGGCCTTCATGGACACATGGAACTAAGCCTCCCAAATGGGAGTTCTGGCT GAGCCCAGGGTGGGGAGATCCTGGGAAGGGAGGCACTGGAGGAAGACGGCACCTCTTCCCCCATGGCAGGGTGTG AGGGAGGCAGGTTTGGAATGGTGCGAGTATGGCAATCTAAGCAGGGGTCTGGTCTCTTTGACTCCAGGCTGGCCT TTGGCCGACTGTCTGCTCACCCAGAGACCTTGGACTCCGGACTATCCATGGCTCCGAATCTAAGTGCTGCCCACT CCCATGCTCACACCCACAGAAGGTCTTCCCATCCCCTTTAGATTCGTGCCTCACTCCACCAGTGAGGAAGATGCC GCCTGGGGACACTGGCCCCATGAGGGGAGGAAGGCAGGCGCACGAGGTCCAGGGAGGCCCTTTTCTGATCATGCC CCTTCTCTCCCACCCATCTCCCCACCACCACCTCTGTGGCCTCCATGGTACCCCCACAGGGCTGGCCTCCCCTA GAGGGTGGGCCTCAACCACCTGCTCCCGCCACGCACCGGTTAGTGAGACAGGGCTGCCACGGCAACCGCCAAGCC GAGAAGAGCTCTAAGGAGAAGAAACCCCATAGCGTCAGAGAGATATGTCTGGCTTCCAAGAGAAAGGAGGCTCC

FIGURE 960B

 ${\tt MLWKGQDYVLRCPPSACNEGLRPTSLSSSSSILASPCILPGVEDGRKAGTSRERMIQGCCHSAARFRNSHSPMTSSTNGWPCDCSLRLKISRKGGLDTGQGDPFVLWTQLSSLFAHGMTQRRPPPTTNLGLRRGIAKKQICFN}$

 ${\tt MVPPQGWPPLEGGPQPPAPATHRLVRQGCHGNRQAPLKVGQYPGPIHSLLRGLRPRMGTSEKSSKEKKPHSVREDMSGFQEKGGSVLQSGGGTRDRGFTSQQPGPCTVCVFKTTKVQELHCTVSPLFIFS}$

CGCTCGCTCGCCCGCCGCCGCCGCCGACCGCCAGCATGCTGCCGAGAGTGGGCTGCCCGCGCTGCCGCTG GCGGTGGCCGCAGTGCCGCATGCCATGCCGGAGCTCGTCCGGGAGCCGGGCTGCTGCTGC TCGGTGTGCGCCCGGCTGGAGGCGAGGCGTGCGGCGTCTACACCCCGCGCTGCGGCCAGGGGCTGCGCTAT $\tt CCCCACCCGGGCTCCGAGCTGCCCCTGCAGGCGCTGGTCATGGGCGAGGGCACTTGTGAGAAGCGCCGGGACGCC$ GAGTATGGCGCCAGCCCGGAGCAGGTTGCAGACAATGGCGATGACCACTCAGAAGGAGGCCTGGTGGAGAACCAC GTGGACACCATGAACATGTTGGGCGGGGAGGCAGTGCTGGCCGGAAGCCCCTCAAGTCGGGTATGAAGGAG $\tt CTGGCCGTGTTCCGGGAGAAGGTCACTGAGCAGCACCGGCAGATGGGCAAGGGTGGCAAGCATCACCTTGGCCTG$ GAGGAGCCCAAGAAGCTGCGACCACCCCCTGCCAGGACTCCCTGCCAACAGGAACTGGACCAGGTCCTGGAGCGG ATCTCCACCATGCGCCTTCCGGATGAGCGGGCCCTCTGGAGCACCTCTACTCCCTGCACATCCCCAACTGTGAC CCCAACACCGGGAAGCTGATCCAGGGAGCCCCCACCATCCGGGGGGACCCCGAGTGTCATCTCTTCTACAATGAG CCCGCCCCTCTCCAAACACCGGCAGAAAACGGAGAGTGCTTGGGTGGTGGTGCTGGAGGATTTTCCAGTTCTGA TGCCACACCTGCTCCTTGCTTTCCCCGGGGGAGGAAGGGGGTTGTGGTCGGGGAGCTGGGGTACAGGTTTGG

FIGURE 967

 ${\tt MAKRTKKVGIVGKYGTRYGASLRKMVKKIEISQHAKYTCSFCGKTKMKRRAVGIWHCGSCMKTVAGGAWTYNTTS} \\ {\tt AVTVKSAIRRLKELKDQ}$

CCCCCGCCACCTCACACCCCCATCCGGGAGACCCACGTGCAGCTGGGCCCGGGCTGGCGCCCCACCTCGGGG TCTGCGCGTCTCCCCGGCGCGTTCCGGGCGCAGCCCCACGACACGGACCCCTGGCGGGGCGGCATCCGAGAAGTC GCAGGCGGAGAGGGGGCGTCCTGGAGGCCGGGCGGGGGACGCTGCGGCCGCGGCGACACAAAGGAGGCGGCGG CCCCGCCGCGCGCAGCCAGCTTGCGCTGTGGGGCTGCCCGGGCTGCGCGGCGTCTGCAGGCGCCACCGCTGCC TCTTTCCGGCTGTGACCCTCCTCGCCGCCGCCGCTTGGCTGCGTCCTCCGACTCCCCGCGCCGCCGAGACCAGGC GAAGGAACCATGAACTGGCATCTCCCCCTCTTCCTCTTGGCCTCTGTGACGCTGCCTTCCATCTGCTCCCACTTC AATCCTCTGTCTCTCGAGGAACTAGGCTCCAACACGGGGATCCAGGTTTTCAATCAGATTGTGAAGTCGAGGCCT CATGACAACATCGTGATCTCCCCCATGGGATTGCGTCGGTCCTGGGGATGCTTCAGCTGGGGGCGGACGGCAGG ACCAAGAAGCAGCTCGCCATGGTGATGAGATACGGCGTAAATGGAGTTGGTAAAATATTAAAGAAGATCAACAAG GAAGTGCCTTTTGTTACAAGGAACAAAGATGTGTTCCAGTGTGAGGTCCGGAATGTGAACTTTGAGGATCCAGCC TCTGCCTGTGATTCCATCAATGCATGGGTTAAAAATGAAACCAGGGATATGATTGACAATCTGCTGTCCCCAGAT CTTATTGATGGTGTGCTCACCAGACTGGTCCTCGTCAACGCAGTGTATTTCAAGGGTCTGTGGAAATCACGGTTC CAACCCGAGAACACAAAGAAACGCACTTTCGTGGCAGCCGACGGGAAATCCTATCAAGTGCCAATGCTGGCCCAG CTCTCCGTGTTCCGGTGTGGGTCGACAAGTGCCCCCAATGATTTATGGTACAACTTCATTGAACTGCCCTACCAC GGGGAAAGCATCAGCATGCTGATTGCACTGCCGACTGAGAGCTCCACTCCGCTGTCTGCCATCATCCCACACATC AGCACCAAGACCATAGACAGCTGGATGAGCATCATGGTGCCCAAGAGGGTGCAGGTGATCCTGCCCAAGTTCACA GCTGTAGCACAAACAGATTTGAAGGAGCCGCTGAAAGTTCTTGGCATTACTGACATGTTTGATTCATCAAAGGCA AATTTTGCAAAAATAACAAGGTCAGAAAACCTCCATGTTTCTCATATCTTGCAAAAAAGCAAAAATTGAAGTCAGT GAAGATGGAACCAAAGCTTCAGCAGCAACAACTGCAATTCTCATTGCAAGATCATCGCCTCCCTGGTTTATAGTA CATAGTTCTGTTAAATATTTTTGTACATCGCTTCTTTTTCAAAACTAGTTCTTAGGAACAGACTCGATGCAAGTG GGCTTCCAGATGTCTAAAAGATTCTTTAAACTACTGAACTGTTACCTAGGTTAACAACCCTGTTGAGTATTTGCT GTTTGTCCAGTTCAGGAATTTTTGTTTTGTTTTGTCTATATGTGCGGCTTTTCAGAAGAAATTTAATCAGTGTGA CCATCCCCTCCAAAGTCTTGATAGCAAGCGTTATTTTGGTGGTAGAAACGGTGAAATCTCTAGCCTCTTTGTGT TTTTGTTGTTGTTGTTGTTGTTTTTTATATATGCATGTATTCACTAAAATAAAATTTAAAAAACTCCTGTCTT GCTAGACAAGGTTGCTGTTGTGCAGTGTGCCTGTCACTACTGGTCTGTACTCCTTGGATTTGCATTTTTGTATTT TGTACAAAGTAAAATAAACTGTTATGAGTAGT

MNWHLPLFLLASVTLPSICSHFNPLSLEELGSNTGIQVFNQIVKSRPHDNIVISPHGIASVLGMLQLGADGRTKK QLAMVMRYGVNGVGKILKKINKAIVSKKNKDIVTVANAVFVKNASEIEVPFVTRNKDVFQCEVRNVNFEDPASAC DSINAWVKNETRDMIDNLLSPDLIDGVLTRLVLVNAVYFKGLWKSRFQPENTKKRTFVAADGKSYQVPMLAQLSV FRCGSTSAPNDLWYNFIELPYHGESISMLIALPTESSTPLSAIIPHISTKTIDSWMSIMVPKRVQVILPKFTAVA QTDLKEPLKVLGITDMFDSSKANFAKITRSENLHVSHILQKAKIEVSEDGTKASAATTAILIARSSPPWFIVDRP FLFFIRHNPTGAVLFMGQINKP

ATGCGTGCTGAAAAGAAAAAAAAAGAATGCCCCAGAGGAGGTCAGCAGGCTTAAAAGTATTCTCAAACTAGACGAT GACGTTTTAATGAAAGATGTTCAAGAGATAGCAACTGTGGTGGTACCCAAACCCAAACATTGCCAAGAGAAAATG GACCAGCATGGACAGTACCCAATATGGATGAACCAAAGGCAAAGAAAAAGGCTAAAGGCAAAGCGAGAGAAAAAGA AAGGAGAAAAACAAAGCAAAAGCAGTGAAAGTGGCAAAGGGTTTGGCCTGTAGTATTGTTTCCATAATAGTCCAT TTCGCAGAAATAAGAAGGAGAATAAAACTTAGAGAAAAAGGGGGCCAAAAGGGGCCAAGGTAGTGGCTACTTGC AGAAACCTGAAAAATATGTGTGACAAAGCCGCCATAATAAGTGCCAGCCGAGCTGCAGCAGCCCGTCTCAGGGGC ACCGCAGCCTCCCCGGGCCCTACGGCCCGCCCAGCAGGATGGCTGGAATGGCCTTAGTCATGAGGCTTTTAGA ATTGTTTCAAGGCAGGATTATGCGTCAGAAGCAATCAATGGAGCAGCTGGTGGTGTTTATTTGGGTACTACCAAC TCCTGTGTGGCAGTTATGGAAGGTAAACAAGCAAAGGTGCTGGAGAATGCCGAAGGTGCCAGAACTACCCCTTCA GTTGTGGCCTTTACAGCAGATGTACAGAAAGACATTAAAAATATTCCCTTTAAAATTGTCTGTGCCTCCAATGGT GATGCCTGGGTTGAGGCTCATGGGAAACTGTATTCTCCAAGTCAGATCGGAGCATTTGTGTCGATGAAGATGAAA GAGACTGCAGAAAATTACTTGGGGCACACAGCAAAAAATGCTGTGATCGCAGTCCCAGCTTATTTCAATGACTTG ${\tt CAGAGGCCACTAAAGATGCTGGCCAGATATCTGGACTGAATGTGCTTCGGGTGATTAATGAACCCACAGCT}$ GCTGCTCTTGCCTATGGTCTAGACAAATCAAAAGACAAAGTCATTGCTGTATATGATTTAGGTGGTGGAACTTTT GATATTTCTATCCTGGAATTTCAGAAAGGAGTATTCGAGGTGAAATCCACAAATGGGGACACTTTCTTAGGTGGG GACAACGTGGCATTTCAGAGGGTGTGGGAAGCTGCTGAAAAGGCTAAATGTGAACTCTCCTCATCTGTGCAGACT GACATCAATTTGCCCTATCTTACAATGGATTCTTCTGGACCCAAGCATTTGAATACAAAGTTGACCCATGCTCAA TTTGAAGGGATTGTCACTGATCTAATCAGGAGGACTATCGCTCCATGCCAAAAAGCTATGCAAGATGCAGAAGTC AGCAAGAGTGATATAGGAGAAGTGATTCTTGTGGAGCCCCCAAGTAAAGCTGTCAATCCTGATGAGGCTGTGGCC ATTGGAGCTGCCATTCAGGGAGATGTTGGCCGGCGATGTCACAGATGTGCTGCTCCTTGATGTCATTCCCCTG GCTGGAGACAACTCCTTGGACAGTTTACTTTGATTGGAATTCCACCAGCCCCTCGTGGAGTTCCTCAGATC AAAGTTACATTTGACATTGATGCCAATGGGATCATACATGTTTCAGCTAAAGATAAAGGCACAGGACATGAGCAG GCTAAGGAAGACCAGCGAAGGAAGGAATGA

 $\tt CCGGCTCCTGCGCCTTCCTCAGGCCCAGCCCGAGTTCCCGGACGCCGGGGACTGGAGTGCCAGCCGGT$ GTTGGACGTGGAGCGCCGCCGCCGCCGACACCATTCTCTCCGGCCCAGCAGCCCCTTCCTCGCACGACG GACTTTCCCTGGACCCCAGTCAGTTGGAGCCTCTGGCGCCCCGCAACCCCGGCCCCTCGGGCCTCTGCACAGCCT CTTTCACTCAGAAGCTCAGGTCGCCTCCAGCCCAGCACTATGCCGGGGACTGTGGCAACACTGCGGTTCCAGCTG CTGCCCCTGAGCCAGATGATGCCTTCTGGGGTGCACCTTGTGAACAGCCCCTGGAGCGCAGGTACCAGGCACTG CCGGCCCTCGTCTGCATCATGTGCTGTTTGTTTGGAGTCGTCTACTGCTTCTTCGGTTACCGCTGCTTCAAGGCA GTGCTCTTTCTCACTGGGTTGCTGTTTGGCTCGGTGGTCATCTTCCTCCTCTGCTACCGAGAGCGGGTGCTAGAG ACACAGCTGAGTGCTGGGGCGAGCGCGGGCATCGCTCTGGGGCATCGGGCTGCTCTGCGGGCTGGTGGCCATGCTA CTCACTCTGCGCTGGCCCCGCCCACTCACCACCCTGGCCACCGCCGTGACTGGTGCTGCGCTGATCGCCACTGCC GCTGACTACTTCGCCGAGCTGCTACTGCTGGGGCGCTACGTGGTGGAGCGACTCCGGGCTGCTCCTGTGCCCCCA GTGACAGCTGAGGGGGACTCCCACACGGAAGTGGTCATCAGCCGGCAGCGCCGACGCGTGCAACTGATGCGGATT CGGCAGCAGGAAGATCGCAAGGAGAAAAGGCCGGAAAAAGAGACCTCCTCGGGCTCCCCTCAGAGGTCCCCGGGCT CCTCCCAGGCCTGGGCCACCAGACCCTGCTTATCGGCGCAGGCCAGTGCCCATCAAACGCTTCAATGGAGACGTC CTCTCCCCGAGCTATATCCAGAGCTTCCGAGACCGGCAGACCGGGAGCTCCCTGAGCTCCTTCATGGCCTCACCC ACAGATGCGGACTATGAGTATGGGTCCCGGGGACCTCTGACAGCCTGCTCAGGCCCCCCAGTGCGGGTATAGCCA TATCTGTCTGTCTAGACTCTGCAGTCACCAGCTCTGCCAGCTCGAGGAGGCCTGCTAGGCTGCCACTCAGCCTCC TGGCTTTGGCTGTCCCCTCTCCCCAGCCTGGAGAGGGCTGGCCTGGTCACTAGAAGGGAGGATTGTCTCAGGCGAG TCTTGGCCTGAGAGGAAAGCCCCCTCCCAAGCTCCCAAGAGGCTCCTGAGGAACTCGGGGTGTGAACCCCATTGG ACGCTGGGACCCTTGCCTTAGATTTCTGACTGGTAGGGTTTCTCCAGGCTCAGCCCCACCTCTTCACTCCCTGCC GACTCATCTAAGGGTTCTTGTCCTTGTCTATGGGGCAAACTGTAGCATCCCTCACCCTGGTCCCCTGGCCTCTGT CCCCACCCCACTCTGTTTTACATCTTTTATAAATGTGCCAAACTGTGTGGCCTCTGCCA

MPGTVATLRFQLLPPEPDDAFWGAPCEQPLERRYQALPALVCIMCCLFGVVYCFFGYRCFKAVLFLTGLLFGSVV IFLLCYRERVLETQLSAGASAGIALGIGLLCGLVAMLVRSVGLFLVGLLLGLLLAAAALLGSAPYYQPGSVWGPL GLLLGGGLLCALLTLRWPRPLTTLATAVTGAALIATAADYFAELLLLGRYVVERLRAAPVPPLCWRSWALLALWP LLSLMGVLVQWRVTAEGDSHTEVVISRQRRRVQLMRIRQQEDRKEKRRKKRPPRAPLRGPRAPPRPGPPDPAYRR RPVPIKRFNGDVLSPSYIQSFRDRQTGSSLSSFMASPTDADYEYGSRGPLTACSGPPVRV

CGCTCGCAGGGACACACGCAGGGGCTGACAGCTGTGCTGGTGCTGATAAGGGAAGCCACAAGGAGACGATCGAGG ACTCCCCACCTCGGGCCCCACCCTGTCCCTGTCCTCTCCCGCTTGCCCTGAGTTTAGAAGAGCAGCCGCTGC GCAGCCGGGGACAGATGCCGATCGAGATTGTGTGCAAAATCAAATTTGCTGAGGAGGATGCGAAACCCAAGGAGA AGGAGGCAGGGGATGAGCAGAGCCTCCTCGGGGCTGTTGCCCCTGGAGCAGCCCCCCGAGACCTGGCCACCTTTG CCAGCACCAGCACCCTGCATGGACTGGGCCGGGCCTGTGGCCCAGGCCCCCACGGACTGCGCAGAACCCTGTGGG CACTGGCCCTACTCACCTCGCTGGCTGCCTTCCTGTACCAGGCGGCTGGCCTGGCCCGGGGCTACCTGACCCGGC CTCACCTGGTGGCAATGGACCCCGCTGCCCCAGCCCCAGTGGCGGGCTTCCCGGCTGTCACCCTCTGCAATATCA ACCGCTTCCGGCATTCGGCACTCAGCGATGCCGACATCTTCCACCTGGCCAATCTGACAGGGCTGCCCCCCAAAG ACCGGGATGGGCACCGTGCGCTGGCCTGCGCTACCCAGAGCCTGACATGGTAGACATCCTCAACCGCACTGGCC ACCAGCTCGCCGACATGCTTAAGAGCTGCAACTTCAGTGGGCATCACTGCTCCGCCAGCAACTTCTCTGTGGTCT ATACTCGCTATGGGAAGTGTTACACCTTCAACGCGGACCCGCGGAGCTCGCTGCCCAGCCGGGCAGGGGGCATGG CGTTTGAGGCAGGTATTCGGGTGCAGATCCACAGCCAGGAGGAGCCGCCCTACATCCACCAGCTGGGGTTCGGGG GCTGTGAAAAGGAGGCCGTGCTTCAGCGCTGCCACTGCCGGATGGTGCACATGCCAGGCAATGAGACCATCTGCC GCCCCACCCCTGCAACCTGACACGCTATGGGAAAGAGATCTCCATGGTCAGGATCCCCAACAGGGGCTCAGCCC GGTACCTGGCGAGGAAGTACAACCGCAACGAGACCTACATACGGGAGAACTTCCTGGTCCTAGATGTCTTCTTTG AGGCCCTGACCTCTGAAGCCATGGAGCAGCGAGCAGCCTATGGCCTGTCAGCCCTGCTGGGAGACCTCGGGGGAC AGATGGGCCTGTTCATTGGGGCCAGCATCCTCACGTTGCTGGAGATCCTCGACTACATCTATGAGGTGTCCTGGG ATCGACTGAAGCGGGTATGGAGGCGTCCCAAGACCCCCTGCGGACCTCCACTGGGGGCATCTCCACTTTGGGGC TTCAGGAGCTGAAGGAACAGAGTCCCTGCCCGAGCCTGGGCCGAGCGGAGGGTGGGGGGGTCAGCAGTCTGCTCC AAAGGACCCAGGAGTCTGGGACCCCTCCTGGGATCCCCAGCACATTCTCCTGCTCCTGGGAGAGGCCTGGGGGCG GTGCTCACTGGGAGGGCCAGGACTCAGTTCCTGCTCTCATCCTCCCCTGCCCTGATGTCAGCTGCTTTGCACAAA GGTCCTTCTTGTCCACACCCCTTATCCCCAGGCTGGTGCCCCGGGAGGGCTGGAGACCAGGCCATGGGCCCTCAC GGAGAGGAAGGAAGGAGGAGGGGGGGGGGGGGAGGCCCATCCCAGCCGGGAGGGGGAGCCCTCTGTAC ATTTGTAAATATTTAGGGAAAGCCGGGTGGGGGGAGGGGATACAGATGTAGAAGGTGGGTAGGGCTACAGGGGTG GGTGATTTAGGGACAGCCAGGGTCCCAGCCCCAATGTCAGCAGGATAGGGAGAGCCCCAGGACTCAGGAGTGCTG GGCTGGTCCTACTTCCTGCCCCTCTCCAGGCCCAGCTCCCCTCTTGGCAGGGGGAGAGGATGGCCCAGCAGGCCT CAGACTTCGGCTGAGCTTGGAGGGTGGGAAGGGAGCCTTCTCAGTCCTCTCCCCTCCAGTCTGATTTTATAAAG TGCTGACGAG

MPIEIVCKIKFAEEDAKPKEKEAGDEQSLLGAVAPGAAPRDLATFASTSTLHGLGRACGPGPHGLRRTLWALALL TSLAAFLYQAAGLARGYLTRPHLVAMDPAAPAPVAGFPAVTLCNINRFRHSALSDADIFHLANLTGLPPKDRDGH RAAGLRYPEPDMVDILNRTGHQLADMLKSCNFSGHHCSASNFSVVYTRYGKCYTFNADPRSSLPSRAGGMGSGLE IMLDIQQEEYLPIWRETNETSFEAGIRVQIHSQEEPPYIHQLGFGVSPGFQTFVSCQEQRLTYLPQPWGNCRAES ELREPELQGYSAYSVSACRLRCEKEAVLQRCHCRMVHMPGNETICPPNIYIECADHTLDSLGGGPEGPCFCPTPC NLTRYGKEISMVRIPNRGSARYLARKYNRNETYIRENFLVLDVFFEALTSEAMEQRAAYGLSALLGDLGGQMGLF IGASILTLLEILDYIYEVSWDRLKRVWRRPKTPLRTSTGGISTLGLQELKEQSPCPSLGRAEGGGVSSLLPNHHH PHGPPGGLFEDFAC

TCACCATGAGCCAGGCCTACTCGTCCAGCCAGCGCGTGTCCTCCTACCGCCGCACCTTCGGCGGGGCCCCGGGCT TGGGGACCACCCGCACGCCTCCTCCTACGGCGCAGGCGAGCTGCTGGACTTCTCACTGGCCGACGCGGTGAACC AGGAGTTTCTGACCACGCGCACCAACGAGAAGGTGGAGCTGCAGGAGCTCAATGACCGCTTCGCCAACTACATCG AGAAGGTGCGCTTCCTGGAGCAGCAGAACGCGGCGCTCGCCGCCGAAGTGAACCGGCTCAAGGGCCGCGAGCCGA CGCGAGTGGCCGAGCTCTACGAGGAGGAGCTGCGGGAGCTGCGGCGCCAGGTGGAGGTGCTCACTAACCAGCGCG CGCGCGTCGACGTCGACGCGGACAACCTGCTCGACGACCTGCAGCGCTCAAGGCCAAGCTGCAGGAGGAGATTC AGTTGAAGGAAGAAGCAGAGAACAATTTGGCTGCCTTCCGAGCGGACGTGGATGCAGCTACTCTAGCTCGCATTG ACCTGGAGCGCAGAATTGAATCTCTCAACGAGGAGATCGCGTTCCTTAAGAAAGTGCATGAAGAGAGATCCGTG AGTTGCAGGCTCAGCTTCAGGAACAGCAGGTCCAGGTGGAGATGGACATGTCTAAGCCAGACCTCACTGCCGCCC AGGTGTCAGACCTGACCCAGGCAGCCAACAAGAACAACGACGCCCTGCGCCAGGCCAAGCAGGAGATGATGGAAT ACCGACACCAGATCCAGTCCTACACCTGCGAGATTGACGCCCTGAAGGGCACTAACGATTCCCTGATGAGGCAGA TGCGGGAATTGGAGGACCGATTTGCCAGTGAGGCCAGTGGCTACCAGGACAACATTGCGCGCCTGGAGGAGGAAA TCCGGCACCTCAAGGATGAGATGGCCCGCCATCTGCGCGAGTACCAGGACCTGCTCAACGTGAAGATGGCCCTGG ATGTGGAGATTGCCACCTACCGGAAGCTGCTGGAGGGAGAGGAGGAGCCGGATCAATCTCCCCATCCAGACCTACT CTGCCCTCAACTTCCGAGAAACCAGCCCTGAGCAAAGGGGTTCTGAGGTCCATACCAAGAAGACGGTGATGATCA ${\tt AGACCATCGAGACACGGGATGGGGAGGTCGTCAGTGAGGCCACACAGCAGCATGAAGTGCTC} {\color{red}{\textbf{TAA}}} {\color{blue}{\textbf{AGACCATCGAGCATGAAGTGCTC}} {\color{blue}{\textbf{TAA}}} {\color{blue}{\textbf{AGACCATCGAGCATGAAGTGCTC}} {\color{blue}{\textbf{TAA}}} {\color{blue}{\textbf{AGACCATCGAGCATGAAGTGCTC}} {\color{blue}{\textbf{TAA}}} {\color{blue}{\textbf{AGACCATCGAGCATGAAGTGCTC}} {\color{blue}{\textbf{AGACCATC$ CACCACACCCAGCCTCAGTCCTCCCCTCACAGCCTCTGACCCCTCCTCACTGGCCATCCCTCGTGGTCCCCAACA GCGACATAGCCCATCCTGCTCACAGGGCATGCCCCGGCCACCTCTGCGGACCCCAGCTGTGAGCCTTGGC TGTGGAGACTGGGGGGCTTGAAATTGTCCCCGTGGTCTCTTACTTTCCTTTCCCCAGCCCAGGGTGGACTTAGAA AGCAGGGGCTACAAGAGGGAATCCCCGAAGGTGCTGGAGGTGGGAGCAGGAGATTGAGAAGGAGAAAAGTGGGT GAGATGCTGGAGAAGAGAGAGAGAGAGAGAGAGAGAGGGGTCTCAGGCTGGTGGGAGGGGGCCCCACCTCCCC

MSQAYSSSQRVSSYRRTFGGAPGFPLGSPLSSPVFPRAGFGSKGSSSSVTSRVYQVSRTSGGAGGLGSLRASRLG
TTRTPSSYGAGELLDFSLADAVNQEFLTTRTNEKVELQELNDRFANYIEKVRFLEQQNAALAAEVNRLKGREPTR
VAELYEEELRELRRQVEVLTNQRARVDVERDNLLDDLQRLKAKLQEEIQLKEEAENNLAAFRADVDAATLARIDL
ERRIESLNEEIAFLKKVHEEEIRELQAQLQEQQVQVEMDMSKPDLTAALRDIRAQYETIAAKNISEAEEWYKSKV
SDLTQAANKNNDALRQAKQEMMEYRHQIQSYTCEIDALKGTNDSLMRQMRELEDRFASEASGYQDNIARLEEEIR
HLKDEMARHLREYQDLLNVKMALDVEIATYRKLLEGEESRINLPIQTYSALNFRETSPEQRGSEVHTKKTVMIKT
IETRDGEVVSEATQQQHEVL

GCACGAGGGTGATGAAGGCCTACGAGTGCGGCGCGCGCCTGAAGGGGCACGCGGGGGACCTGCAAAGCTAGTGAGG $\mathtt{C}\underline{\mathtt{ATG}}\mathtt{CAGGTGGCCATGAACGGTAAGGCCCGCAAAGAGGCGGTGCAGACTGCGGCTAAGGAACTCCTCAAGTTCGT$ CAAGGAGACTGAGAAATGGAATATTAAGCCCGAGAGCAAGTACTTCATGACCAGGAACTCCTCCACCATCATAGC TTTTGCTGTAGGGGGCCAGTACGTTCCTGGCAATGGCTTCAGCCTCATCGGGGCCCACACGGACAGCCCCTGCCT CCGGGTGAAACGTCGGTCTCGCCGCAGCCAGGTGGGCTTCCAGCAAGTCGGTGTGGAGACCTATGGTGGTGGAT CAACGAGAACTTTGGGCCCAACACAGAGATGCATCTAGTCCCCATTCTTGCCACAGCCATCCAGGAGGAGCTGGA GAAGGGGACTCCTGAGCCAGGGCCTCTCAATGCTGTGGATGAGCGGCACCATTCGGTCCTCATGTCCCTGCTCTG TGCCCATCTGGGGCTGAGCCCCAAGGACATAGTGGAGATGGAGCTCTGCCTTGCAGACACCCCAGCCTGCGGTCTT GGGTGGTGCCTATGATGAGTTCATCTTTGCTCCTCGGCTGGACAATCTGCACAGCTGCTTCTGTGCCCTGCAGGC $\tt CTTGATAGATTCCTGTGCAGGCCCTGGCTCCCTGGCCACAGAGCCTCACGTGCGCATGGTCACACTCTATGACAA$ TGTGCATCCCAACTACCTGGACAAGCATGAGGAGAACCACCGGCCTTTATTCCACAAGGGCCCCGTGATCAAGGT GAACAGCAAGCAACGCTATGCTTCAAACGCGGTGTCAGAGGCCCTGATCCGAGAGGTGGCCAACAAAGTCAAGGT ${\tt CCCCCTGCAGGATCTCATGGTCCGGAATGACACCCCTGTGGAACCACCATTGGACCTATCTTGGCTTCTCGGCT}$ GGGGCTGCGGGTGCTGGATTTAGGCAGCCCCCAACTGGCCATGCACTCTATCCGGGAGATGGCCTGCACCACAGG AGTCCTCCAGACCCTCACCCTCTTCAAGGGCTTCTTTGAGCTGTTCCCTTCTCTAAGCCATAATCTCTTAGTGGA

MQVAMNGKARKEAVQTAAKELLKFVNRSPSPFHAVAECRNRLLQAGFSELKETEKWNIKPESKYFMTRNSSTIIA FAVGGQYVPGNGFSLIGAHTDSPCLRVKRRSRRSQVGFQQVGVETYGGGIWSTWFDRDLTLAGRVIVKCPTSGRL EQQLVHVERPILRIPHLAIHLQRNINENFGPNTEMHLVPILATAIQEELEKGTPEPGPLNAVDERHHSVLMSLLC AHLGLSPKDIVEMELCLADTQPAVLGGAYDEFIFAPRLDNLHSCFCALQALIDSCAGPGSLATEPHVRMVTLYDN EEVGSESAQGAQSLLTELVLRRISASCQHPTAFEEAIPKSFMISADMAHAVHPNYLDKHEENHRPLFHKGPVIKV NSKQRYASNAVSEALIREVANKVKVPLQDLMVRNDTPCGTTIGPILASRLGLRVLDLGSPQLAMHSIREMACTTG VLOTLTLFKGFFELFPSLSHNLLVD

TGGAAGAGGCAGAAAATGGAAGACGCCCCTGCTAACGGGAATGCTAATGAGGAAAATGGGGAGCAGGAGGCTG AGGATGGAGATGAAGATGAGGAAGCTGAGTCAGCTACGGGCAAGCGGGCAGCTGAAGATGATGAGGATGACGATG GCCGCCGTGACCTATTCACCCTCCACTTCCCGTCTCAGAATCTAAACGTGGTCACCTTCGAGTAGAGAGGCCCGC CCGCCCACCGTGGGCAGTGCCACCCGCAGATGACACGCGCTCTCCACCACCCAACCCAAACCATGAGAATTTGCA ACAGGGGAGGAAAAAAGAACCAAAACTTCCAAGGCCCTGCTTTTTTTCTTAAAAAGTACTTTAAAAAGGAAATTTG TTTGTATTTTTATTTACATTTTATATTTTTTGTACATATTGTTAGGGTCAGCCATTTTTAATGATCTCGGATGAC CAAACCAGCCTTCGGAGCGTTCTCTGTCCTACTTCTGACTTTACTTGTGGTGTGACCATGTTCATTATAATCTCA AAGGAGAAAAAAACCTTGTAAAAAAAGCAAAAATGACAACAGAAAAACAATCTTATTCCGAGCATTCCAGTAAC TTTTTTGTGTATGTACTTAGCTGTACTATAAGTAGTTGGTTTGTATGAGATGGTTAAAAAAGGCCAAAGATAAAAG AATGTTGTCCAACAATAAACAGG

FIGURE 980A

 $\texttt{CGGAGCTCGGAAAG} \underline{\textbf{ATG}} \texttt{CGGCGCCCGCGGCGGCCTGGGGGGTCTCGGGGGATCCGGGGGTCTCCGGCTGCTCCTCT}$ ${\tt GCCTCCTGCTGAGCAGCCGCCGGGGGGGCTGCAGCGCCGTTAGTGCCCACGGCTGTCTATTTGACCGCAGGC}$ TCTGCTCTCACCTGGAAGTCTGTATTCAGGATGGCTTGTTTGGGCAGTGCCAGGTGGGAGTGGGGCAGGCCCGGC $\verb|CCCTTTTGCAAGTCACCTCCCCAGTTCTCCAACGCTTACAAGGTGTGCTCCGACAACTCATGTCCCAAGGATTGT|\\$ CCTGGCACGATGACCTCACCCAGTATGTGATCTCTCAGGAGATGGAGCGCATCCCCAGGCTTCGCCCCCAGAGC $\verb|CCCGTCCAAGGGACAGGTCTGGCTTGGCACCCAAGAGACCTGGTCCTGCTGGAGAGCTGCTTTTACAGGACATCC| \\$ CCACTGGCTCCGCCCCTGCTGCCCAGCATCGGCTTCCACAACCACCAGTGGGCAAAGGTGGAGCTGGGGCCAGCT CCTCTCTGTCCCCTCTGCAGGCTGAGCTGCTCCCGCCTCTCTTGGAGCACCTGCTGCTGCCCCACAGCCTCCCC ACCCTTCACTGAGTTACGAACCTGCCTTGCTGCAGCCCTACCTGTTCCACCAGTTTTGGCTCCCGTGATGGCTCCA GGGTCTCAGAGGGCTCCCCAGGGATGGTCAGTGTCGGCCCCTGCCCAAGGCTGAAGCCCCTGCCCTCTTCAGCA GAACTGCCTCCAAGGGCATATTTGGGGACCACCCTGGCCACTCCTACGGGGACCTTCCAGGGCCTTCACCTGCCC AGCTTTTTCAAGACTCTGGGCTGCTCTATCTGGCCCAGGAGTTGCCAGCACCCAGCAGGGCCAGGGTGCCAAGGC GAGAGAAGCCTGCTTCCCCAGCTGTGCAGCCAGATGCGGCTCTGCAGAGGCTGGCCGCTGTGCTGGCGGGCTATG GGGTAGAGCTGCGTCAGCTGACCCCTGAGCAGCTCTCCACACTCCTGACCCTGCTGCAGCTACTGCCCAAGGGTG GAGACACAGCAGAGCTTCCAGCCCGCACATCCCCCATGCCTGGACACCCCAGCCCTACCTCCAGTGAAG TCCAGCAGGTGCCAAGCCCTGTCTCCTCTGAGCCTCCCAAAGCTGCCAGACCCCCTGTGACACCTGTCCTAG GGCTCCAAATCTTGCAGACAGGAGTGGGACAGAGGGAGGAGGCAGCTGCAGTCCTTCCCCAAACTGCGCACAGCA TGGCTCTGTGTGTGCGCAGCATGCGCGGCAGCAAGACAAGGAGCGCCTGGCAGCCCTGGGGCCTGAGGGGGCCC ATGGTGACACTACCTTTGAGTACCAGGACCTGTGCCGCCAGCACATGGCCACGAAGTCCTTGTTCAACCGGGCAG AGGGTCCACCGGAGCCTTCACGGGTGAGCAGTGTGTCCTCCCAGTTCAGCGACGCAGCCCAGGCCAGCCCCAGCT CCCACAGCAGCACCCCGTCCTGGTGCGAGGAGCCGGCCCAAGCCAACATGGACATCTCCACGGGACACATGATTC TGGCATACATGGAGGATCACCTGCGGAACCGGGACCGCCTTGCCAAGGAGTGGCAGGCCCTCTGTGCCTACCAAG CAGAGCCAAACACCTGTGCCACCGCGCAGGGGGAGGGCAACATCAAAAAGAACCGGCATCCTGACTTCCTGCCCT ATGACCATGCCCGCATAAAACTGAAGGTGGAGAGCAGCCCTTCTCGGAGCGATTACATCAACGCCAGCCCCATTA TTGAGCATGACCCTCGGATGCCAGCCTACATAGCCACGCAGGGCCCGCTGTCCCATACCATCGCAGACTTCTGGC AGATGGTGTGGGAGAGCGGCTGCACCGTCATCGTCATGCTGACCCCGCTGGTGGAGGATGGTGTCAAGCAGTGTG ACCGCTACTGGCCAGATGAGGGTGCCTCCTCTACCACGTATATGAGGTGAACCTGGTGTCGGAGCACATCTGGT GCGAGGACTTTCTGGTGCGGAGCTTCTACCTGAAGAACGTGCAGACCCAGGAGACGCGCACGCTCACGCAGTTCC ACTTCCTCAGCTGGCCGGCAGAGGGCACACCGGCCTCCACGCGGCCCCTGCTGGACTTCCGCAGGAAGGTGAACA AGTGCTACCGGGGCCGCTCCTGCCCCATCATCGTGCACTGCAGTGATGGTGCGGGGAGGACCGGCACCTACATCC TCATCGACATGGTCCTGAACCGCATGGCAAAAGGAGTGAAGGAGATTGACATCGCTGCCACCCTGGAGCATGTCC GTGACCAGCGGCCTGGCCTTGTCCGCTCTAAGGACCAGTTTGAATTTGCCCTGACAGCCGTGGCGGAGGAAGTGA $\tt ATGCCATCCTCAAGGCCCTGCCCCAG{\color{red}{\textbf{TGA}}} GACCCTGGGGGCCCCTTGGCGGGCAGCCCAGCCTCTTTTG$ CCTGTGTGAGCATCTCTGTGTACCCACTCCTCACTGCCCCACCAGCCACCTCTTGGGCATGCTCAGCCCTTCCTA GAAGAGTCAGGAAGGGAAAGCCAGAAGGGGCACGCCTGCCCAGCCTCGCATGCCAGAGCCTGGGGCATCCCAGAG $\tt CCCAGGGCATCCCATGGGGGTGCTGCAGCCAGGAGGAGGGAAAGGACATGGGTAGCAATTCTACCCAGAGCCTT$ CTCCTGCCTACATTCCCTGGCCTCGCCTCTCTGTAGCTCTCCTGGGGTTCTGGGAGTTCCCTGAACATCTGTGTG TGTCCCCCTATGCTCCAGTATGGAAGAATGGGGTGGAGGGTCGCCACACCCGGCTCCCCTGCTTCTCAGCCCCG CCATGCGCTGCTCAACCTCTCTCTTCTGGCGCAAGAGAACATTTCTAGAAAAAACTACTTTTGTACCAGTGTGA

FIGURE 980B

MRRPRRPGGLGGSGGLRLLLCLLLLSSRPGGCSAVSAHGCLFDRRLCSHLEVCIQDGLFGQCQVGVGQARPLLQV
TSPVLQRLQGVLRQLMSQGLSWHDDLTQYVISQEMERIPRLRPPEPRPRDRSGLAPKRPGPAGELLLQDIPTGSA
PAAQHRLPQPPVGKGGAGASSSLSPLQAELLPPLLEHLLLPPQPPHPSLSYEPALLQPYLFHQFGSRDGSRVSEG
SPGMVSVGPLPKAEAPALFSRTASKGIFGDHPGHSYGDLPGPSPAQLFQDSGLLYLAQELPAPSRARVPRLPEQG
SSSRAEDSPEGYEKEGLGDRGEKPASPAVQPDAALQRLAAVLAGYGVELRQLTPEQLSTLLTLLQLLPKGAGRNP
GGVVNVGADIKKTMEGPVEGRDTAELPARTSPMPGHPTASPTSSEVQQVPSPVSSEPPKAARPPVTPVLLEKKSP
LGQSQPTVAGQPSARPAAEEYGYIVTDQKPLSLAAGVKLLEILAEHVHMSSGSFINISVVGPALTFRIRHNEQNL
SLADVTQQAGLVKSELEAQTGLQILQTGVGQREEAAAVLPQTAHSTSPMRSVLLTLVALAGVAGLLVALAVALCV
RQHARQQDKERLAALGPEGAHGDTTFEYQDLCRQHMATKSLFNRAEGPPEPSRVSSVSSQFSDAAQASPSSHSST
PSWCEEPAQANMDISTGHMILAYMEDHLRNRDRLAKEWQALCAYQAEPNTCATAQGEGNIKKNRHPDFLPYDHAR
IKLKVESSPSRSDYINASPIIEHDPRMPAYIATQGPLSHTIADFWQMVWESGCTVIVMLTPLVEDGVKQCDRYWP
DEGASLYHVYEVNLVSEHIWCEDFLVRSFYLKNVQTQETRTLTQFHFLSWPAEGTPASTRPLLDFRRKVNKCYRG
RSCPIIVHCSDGAGRTGTYILIDMVLNRMAKGVKEIDIAATLEHVRDQRPGLVRSKDQFEFALTAVAEEVNAILK
ALPQ

 ${\tt AGTTCTCACTGAGACCTGTCACCCGACTCAACGTGAGACGCACCGCCCGGACTCACC} {\color{red} \underline{\textbf{ATG}}} {\tt CGTGAATGCATCTC}$ AGTCCACGTGGGGCAGGCAGGTGTCCAGATGGGCAATGCCTGCTGGGAGCTCTATTGCTTGGAACATGGGATTCA GCCTGATGGGCAGATGCCCAGTGACAAGACCATTGGTGGAGGGGACGACTCCTTCACCACCTTCTTCTGTGAAAC TGGTGCTGGAAAACACGTACCCCGGGCAGTTTTTGTGGATCTGGAGCCTACGGTCATTGATGAGATCCGAAATGG CCCATACCGACAGCTCTTCCACCCAGAGCAGCTCATCACTGGGAAAGAGGATGCTGCCAACAACTATGCCCGTGG TCACTATACCATTGGCAAGGAGATCATTGACCCAGTGCTGGATCGGATCCGCAAGCTGTCTGACCAGTGCACAGG ${\tt ACTTCAGGGCTTCCTGGTGTTCCACAGCTTTGGTGGGGGCACTGGCTCTGGCTTCACCTCACTCCTGATGGAGCG}$ GCTCTCTGTTGACTATGGCAAGAAATCCAAGCTGGAATTCTCCATCTACCCAGCCCCCAGGTGTCTACAGCCGT GGTCGAGCCCTACAACTCTATCCTGACCACCCACACCCTGGAGCACTCAGACTGTGCCTTCATGGTGGACAA CGAAGCAATCTATGACATCTGCCGCCGCAACCTAGACATCGAGCGCCCAACCTACACCAACCTCAATCGCCTCAT TAGCCAAATTGTCTCCTCCATCACAGCTTCTCTGCGCTTTGACGGGGCCCTCAATGTGGACCTGACAGAGTTCCA GACCAACCTGGTGCCCTACCCTCGCATCCACTTCCCCCTGGCCACCTATGCACCAGTCATCTCTGCAGAAAAGGC ATACCACGAGCAGCTGTCGGTGGCAGAGATCACCAATGCCTGCTTTGAGCCTGCCAACCAGATGGTAAAGTGTGA TCCCCGGCACGCCAAGTACATGGCCTGCTGCTGTACCGTGGAGATGTGGTGCCCAAGGATGTCAACGCTGC GACCGCCATCGCCGAGGCCTGGGCCCTGGACCACAAGTTCGACCTGATGTATGCCAAGAGGGCGTTTGTGCA ΑΑΑΑΑΑΑΑΑΑΑΑ

MRECISVHVGQAGVQMGNACWELYCLEHGIQPDGQMPSDKTIGGGDDSFTTFFCETGAGKHVPRAVFVDLEPTVI
DEIRNGPYRQLFHPEQLITGKEDAANNYARGHYTIGKEIIDPVLDRIRKLSDQCTGLQGFLVFHSFGGGTGSGFT
SLLMERLSVDYGKKSKLEFSIYPAPQVSTAVVEPYNSILTTHTTLEHSDCAFMVDNEAIYDICRRNLDIERPTYT
NLNRLISQIVSSITASLRFDGALNVDLTEFQTNLVPYPRIHFPLATYAPVISAEKAYHEQLSVAEITNACFEPAN
QMVKCDPRHGKYMACCLLYRGDVVPKDVNAAIAAIKTKRSIQFVDWCPTGFKVGINYQPPTVVPGGDLAKVQRAV
CMLSNTTAIAEAWARLDHKFDLMYAKRAFVHWYVGEGMEEGEFSEAREDMAALEKDYEEVGIDSYEDEDEGEE

GGGCCTGCAGTTGGCAGGAGGGTCCCGGGCCCAGAGCCAGCGGGCCGTGCTGAGACGGCGTACGTGCCCTGCGT GAGTGCGTGGCGGCGCGCGCGCGCGCGGGGGGGGGGGGCCGGTGAGGCCTGGTCCACGTGCGTCCCTTCCCGGGACC $\tt CTCGACGCGGATGGCTCTGGGGACTCTGGCCTTGGTGCTCTTCCCTGCAGACGCCGGGAGCGGCCCGCTGG$ TGCTGATTCGCTGTCTTGGGGGGCCGGCCCTCGCATCTCTCCCTACGTGCTGCAGCTGCTTCTGGCCACACTTCA GGCGGCGCTGCCCTGGCCGGCCTGGCCGGGTGGCCACTGCCCGGGGGGCCCCACTGCCAAGCTATCTACT TCTGGCCTCCGTGCTGGAGAGTCTGGCCGGCCCTGTGGCCTGTGGCTGCTTGTCGTGGAGCCGAGCCAGGCACG GCAGCGTCTGGCAATGGGCATCTGGATCAAGTTCAGGCACAGCCCTGGTCTCCTGCTCCTCTGGACTGTGGCGTT TGCAGCTGAGAACTTGGCCCTGGTGTCTTGGAACAGCCCACAGTGGTGGTGGGCAAGGGCAGACTTGGGCCAGCA GGTTCAGTTTAGCCTGTGGGTGCTGCGGTATGTGGTCTCTGGAGGGCTGTTTGTCCTGGGTCTCTGGGCCCCTGG ACTTCGTCCCCAGTCCTATACATTGCAGGTTCATGAAGAGGACCAAGATGTGGAAAGGAGCCAGGTTCGGTCAGC ${\tt TCCAGCTCTGCAGCTGGTGGTGCTCATCTGCCTGGGGCTCATGGGTTTGGAACGGGCACTCAATGTGTTGGTGCC}$ TATATTCTATAGGAACATTGTGAACTTGCTGACTGAGAAGGCACCTTGGAACTCTCTGGCCTGGACTGTTACCAG TTACGTCTTCCTCAAGTTCCTCCAGGGGGGGGGCACTGGCAGTACAGGCTTCGTGAGCAACCTGCGCACCTTCCT GTGGATCCGGGTGCAGCAGTTCACGTCTCGGCGGGTGGAGCTGCTCATCTTCTCCCCACCTGCACGAGCTCTCACT GCGCTGGCACCTGGGGCGCCCCCACAGGGGAGGTGCTGCGGATCGCGGATCGGGGCACATCCAGTGTCACAGGGCT GCTCAGCTACCTGGTGTTCAATGTCATCCCCACGCTGGCCGACATCATCATCATCATCATCTACTTCAGCATGTT CTTCAACGCCTGGTTTGGCCTCATTGTGTTCCTGTGCATGAGTCTTTACCTCACCCTGACCATTGTGGTCACTGA GTGGAGAACCAAGTTTCGTCGTGCTATGAACACACAGGAGAACGCTACCCGGGCACGAGCAGTGGACTCTCTGCT AAACTTCGAGACGGTGAAGTATTACAACGCCGAGAGTTACGAAGTGGAACGCTATCGAGAGGCCATCATCAAATA TCAGGGTTTGGAGTGGAAGTCGAGCGCTTCACTGGTTTTACTAAATCAGACCCAGAACCTGGTGATTGGGCTCGG GCTCCTCGCCGGCTCCCTGCTTTGCGCATACTTTGTCACTGAGCAGAAGCTACAGGTTGGGGGACTATGTGCTCTT TGGCACCTACATTATCCAGCTGTACATGCCCCTCAATTGGTTTGGCACCTACTACAGGATGATCCAGACCAACTT CATTGACATGGAGAACATGTTTGACTTGCTGAAAGAGGAGACAGAAGTGAAGGACCTTCCTGGAGCAGGGCCCCT TCGCTTTCAGAAGGGCCGTATTGAGTTTGAGAACGTGCACTTCAGCTATGCCGATGGGCGGGAGACTCTGCAGGA CGTGTCTTTCACTGTGATGCCTGGACAGACACTTGCCCTGGTGGGCCCATCTGGGGCAGGGAAGAGCACAATTTT GCGCCTGCTGTTTCGCTTCTACGACATCAGCTCTGGCTGCATCCGAATAGATGGGCAGGACATTTCACAGGTGAC ${\tt CCAGGCCTCTCCCGGTCTCACATTGGAGTTGTGCCCCAAGACACTGTCCTCTTTAATGACACCATCGCCGACAA}$ TATCCGTTACGGCCGTGTCACAGCTGGGAATGATGAGGTGGAGGCTGCTGCTCAGGCTGCAGGCATCCATGATGC CATTATGGCTTTCCCTGAAGGGTACAGGACACAGGTGGGCGAGCGGGGACTGAAGCTGAGCGGGGGAGAAGCA GCGCGTCGCCATTGCCCGCACCATCCTCAAGGCTCCGGGCATCATTCTGCTGGATGAGGCAACGTCAGCGCTGGA TACATCTAATGAGAGGGCCATCCAGGCTTCTCTGGCCAAAGTCTGTGCCAACCGCACCACCATCGTAGTGGCACA CAGGCTCTCAACTGTGGTCAATGCTGACCAGATCCTCGTCATCAAGGATGGCTGCATCGTGGAGAGGGGACGACA AGACACTAAGCCTCAGACCATGGAACGGTGACAAAAGTTTGGCCACTTCCCTCTCAAAGACTAACCCAGAAGGGA ATAAGATGTGTCTCCTTTCCCTGGCTTATTTCATCCTGGTCTTGGGGTATGGTAGCTATGGTAAGGGAAAGG GACCTTTCCGAAAAACATCTTTTGGGGAAATAAAAATGTGGACTGTG

WO 2004/030615 PCT/US2003/028547

1056/6881 FIGURE 985

GCTGCCCCGGTATCCCCGTGTGGGGCAGGAAGTGGGCTTCCAGATTCCCAGTATCCCCGGTAGGGTCTGCTTCTG TCAGTGGGTAAACAAACACACCAGCGCTTGACTCGACAGACTCGAAAACAACATCTACTCAGAAAAGTTGTTT CTTTCCTATCTCCTTAAACTTTCCCACTTCCACATATCGGAGCTTCTTCCCACCTCGGCCTACTCAAGCATGAGA TCGGAGGCGGGAGGCCGCCGACTGGCGGCGCGATGGACCTGACCGGGCTCCTGCTGGACGAAGAAGGCACCTTCT CCCTCGCCGGCTTCCAGGACTTCACGTTCCTCCCAGGACACCAGAAGCTGAGTGCCCGGATCCGAAGGAGGCTCT ACTATGGCTGGGACTGGAAGCCGACTGTAGCCTGGAGGAGCTCTCCAGCCCGGTGGCAGACATTGCTGTCGAAC TGCTCCAGAAGGCAGCCCCAGCCCTATTCGCCGACTCCAGAAGAAATATGTAGCTCATGTGTCCCGGGAGGCAT GCATCTCCCCATGTGCTATGATGCTGGCTCTGGTGTACATTGAACGGCTCCGGCACCGAAACCCAGACTACTTGC AGGAGGAGGTCTTCAACGACGAATGGGGAGCTGCTGGGGGTGTGGCCGTGCCCACTCTCAATGCCTTGGAGAGGG GCTTCCTGAGTGCCATGGATTGGCATCTCTACACTGACCCTCGGGAGATCTTTGAGGTGCTGAGCTGGTTGGAGA CGACCTGGCAGTTGGCCTGGGCTCCTCTGCCAGCGGCTGGTAAAGCTGTCTTGCCTGTTAGCTGTGGCATATG TGAGCAGTGTGGCCCTGGCTGTGGCATCGGTGGCCGTAATACATCAGTCTTTGGGGCTGTCCTGCATCCCTACAC CTGGGCCGCCTGACCTTGGACTGACCTCCCGTTGCCTCCTGGAGCCCTGCATACCTTCTGTGCCACAATGCCTGC CGTCTCTCGCTAATGTCTCCAGCTGCCTGGAAGGCAGCATGGGGCTGCGGTCACTCTGGGGCAGTCTTCTGGCCT CACTGACTCCTCCACCATTGCCTCCCCAGACCCCCTGCCCCTCCCACTCTTCTTCATAACTGCCACCTTTGCC GCCCCTGGTACCATACCTATGGCCTGGCTCCCCCTGGCCTTGGAGCCCGGTGCTCCTTTCACTTCCTCAGCCTC GAGGAATGCATTAAGAGGGTTTGGGAGTTTCTGAGAACCTGGAGGAGCAAAGCTTGATTCAGATCCTGTCTGCCT CGCTGGGTCCTTGGCAGGTCCCCTGTCCTCCTGGGTGGGAGCTTATGGGGTGGTGGGGCAGAAGGACTGAAGGTA ATTCACTCCTAGATCGCAGTGGCTGCTTGGCCAGGACAGTGATGCCGCCAGGGAGAGCTTCCGCTTGGTGA CCAGGGACATGTCCCAGATGGACATAGAAGCCCCTCTCTGCCTCCCTGGGATTTTTTTAGACTTTTAGATT TCCCTAGGATGGAAGAGTATAGGTGGGAGATAAGGGAAGTGGGGTGAGAGGAAAAGGAAATGTTGGCATGGGCC TGTGTGATGTCCCTGAGGCAGAAGAGC

MDLTGLLLDEEGTFSLAGFQDFTFLPGHQKLSARIRRRLYYGWDWEADCSLEELSSPVADIAVELLQKAAPSPIR RLQKKYVAHVSREACISPCAMMLALVYIERLRHRNPDYLQHVSSSDLFLISMMVASKYLYDEGEEEEVFNDEWGA AGGVAVPTLNALERGFLSAMDWHLYTDPREIFEVLSWLESCVAEQQGRWRGWYTYTDLCVLLEQPTWQLALGSLC QRLVKLSCLLAVAYVSSVALAVASVAVIHQSLGLSCIPTPGPPDLGLTSRCLLEPCIPSVPQCLPSLANVSSCLE GSMGLRSLWGSLLASLTPPPLPPPDPPAPPTLLHNCHLCQKLQRDSPTCHACLHPNRTVPTALSSPWYHTYGLAP PWPWSPVLLSLPQPQQCSLFSVMELARLKSFVFPG

GAAGATATGGCGGCGTCTGCGTCTGCAGCTGCAGGGGAGGAGGACTGGGTCCTTCCCTCTGAAGTTGAAGTATTG GAGTCCATCTATCTAGATGAACTACAGGTGATTAAAGGAAATGGCAGAACTTCACCATGGGAGATCTACATCACCT TTGCATCCTGCCACTGCAGAGGACCAGGATTCACAGTATGTCTGCTTCACTCTGGTGCTTCAGGTCCCAGCAGAG TATCCCCATGAGGTGCCACAGATCTCTATCCGAAATCCCCGAGGACTTTCAGATGAACAGATCCACACGATCTTA ATTCTCACAGATAACAACATCCCTCATGGCCAGTGTGTCATCTGCCTCTATGGTTTCCAGGAGAAGGAGGCCTTT ACCAAAACACCCTGTTACCACTACTTCCACTGCCACTGCCTTGCTCGGTACATCCAGCACATGGAGCAAGAGCTG AAGGCACAAGGACAGGAACAGGAACAGGCAGCATGCTACAACCAAACAGAAGGCAGTCGGTGTGCAGTGT CCAGTGTGCAGAGAGCCCCTCGTGTATGATCTTGCCTCACTGAAAGCAGCCCCTGAACCCCAACAGCCCATGGAG CTGTACCAGCCCAGTGCAGAGAGCTTGCGCCAGCAAGAAGAACGCAAGCGGCTCTACCAGAGGCAGCAGGAGCGG GGGGGAATCATTGACCTTGAGGCTGAGCGAAACCGATACTTCATCAGCCTTCAGCAGCCTCCTGCCCCTGCGGAA CCTGAGTCAGCTGTAGATGTCTCCAAAGGATCCCAACCACCCAGCACCCTTGCAGCAGAACTATCCACCTCACCA GCCGTCCAATCCACTTTGCCACCTCCTCTGCCTGTGGCGACCCAGCACATATGTGAGAAGATTCCAGGGACCAGG TCAAATCAGCAAAGGTTGGGCGAAACCCAGAAAGCTATGCTAGATCCCCCCAAGCCCAGTCGAGGTCCCTGGCGA CAGCCCGAACGGAGGCACCCAAAGGGAGGGGAGTGCCACGCCCCTAAAGGTACCCGTGACACCCAGGAACTGCCA CCTCCTGAGGGGCCCCTCAAGGAGCCCATGGACCTAAAGCCAGAACCCCATAGCCAAGGAGTTGAAGGTCCTCCA CAAGAGAGGGGCCTGGCAGCGGGGCCCCCACCCGCAGGACTCGGGACTGTGTTCGCTGGGAGCGCTCT AAAGGCCGGACACCCGGTTCTTCCTACCCTCGCCTCGCGCCCAGTAGCATACCGGCCTGGTACTCGGAGGG AGTCCCTGGGCCTGGAATCTAAGGATGGTTCCTAGCAGGACTTGGTGGGGGGAACAGGGAATTGGGGATGGGAGG GAGGCAATAAAGATATTTGGCCTTC

MAASASAAAGEEDWVLPSEVEVLESIYLDELQVIKGNGRTSPWEIYITLHPATAEDQDSQYVCFTLVLQVPAEYP HEVPQISIRNPRGLSDEQIHTILQVLGHVAKAGLGTAMLYELIEKGKEILTDNNIPHGQCVICLYGFQEKEAFTK TPCYHYFHCHCLARYIQHMEQELKAQGQEQEQERQHATTKQKAVGVQCPVCREPLVYDLASLKAAPEPQQPMELY QPSAESLRQQEERKRLYQRQQERGGIIDLEAERNRYFISLQQPPAPAEPESAVDVSKGSQPPSTLAAELSTSPAV QSTLPPPLPVATQHICEKIPGTRSNQQRLGETQKAMLDPPKPSRGPWRQPERRHPKGGECHAPKGTRDTQELPPP EGPLKEPMDLKPEPHSQGVEGPPQEKGPGSWQGPPPRRTRDCVRWERSKGRTPGSSYPRLPRGQ

GGCACGAGGGCCAGCTGCTGTAGAAGAGGGGAGGAAACAAGCCAGTGCAAGGGGAGCAAAAGAGAAAAGGAGCCA GGCTGGGCTTCCTGATCCCACAGCATCGCAGAGCTCGGGAGGCACAGCTCACAGACACAGGAAACACAGGACTGC TATTCTGCTCTCCTGCCCACGGTGATCTGGTGCCAGCTGGTGGAACAGTGGGTGATCGCGTCCCTGCTGCAAGAC CAGCTGACCACTGATCAGGACTTGCTGCTGATGCAGGAAGGCATGCCGATGCGCAAGGTGAGGTCCAAAAGCTGG AAGAAGCTAAGATACTTCAGACTTCAGAATGACGGCATGACAGTCTGGCATGCACGGCAGGCCAGGGCAGTGCC AAGCCCAGCTTCTCAATCTCTGATGTGGAGACAATACGTAATGGCCATGATTCCGAGTTGCTGCGTAGCCTGGCA GAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCATGGCCGCCGCTCCAACCTGGACCTGATGGCCAAC AGTGTTGAGGAGGCCCAGATATGGATGCGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAG GAGCGCCTGGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGTAAGATGAGTTTCCAA GAAGTTCAGCGGTTATTGCACCTAATGAATGTGGAAATGGACCAAGAATATGCCTTCAGTCTTTTTCAGGCAGCA GACACGTCCCAGTCTGGAACCCTGGAAGGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAG GTGCAGGAACTGTTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTCCAA GAGGAGCAGAAGGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGCTATGAACCTTCAGACAGT GGCAAACTGCGGCATGTGCTGAGTATGGATGGCTTCCTCAGCTACCTCTGCTCTAAGGATGGAGACATCTTCAAC CCAGCCTGCCTCCCCATCTATCAGGATATGACTCAACCCCTGAACCACTACTTCATCTGCTCTTCTCATAACACC TACCTAGTGGGGGACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCGGGGGTGCCGC TGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGGAACCTGTCGTTTACCACGGACACACCCTGACCTCCCGC ATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCCTTCCAGACATCAGACTACCCAGTCATCTTGTCC CTGAGCACCACCTTGGATGGGTGCCCACTCAGCTGCCCTGAGGAGCTTCGGAGGAGATCCTGGTG AAGGGGAAGAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAGGAAGCAGAACCTGAGTTGGAAGAGTCA GAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCCCAGGAGCAGAACCTTCAGAATAAGGACAAAAAG TTCACACATTCAAAGGAGCACTACCACTTCTACGAGATATCATCTTTCTCTGAAACCAAGGCCAAGCGCCTCATC AAGGAGGCTGGCAATGAGTTTGTGCAGCACAATACTTGGCAGTTAAGCCGTGTGTATCCCAGCGGCCTGAGGACA GACTCTTCCAACTACAACCCCCAGGAACTCTGGAATGCAGGCTGCCAGATGGTGGCCATGAATATGCAGACTGCA GGGCTTGAAATGGACATCTGTGATGGGCATTTCCGCCAGAATGGCGGCTGTGGCTATGTGCTGAAGCCAGACTTC CTGCGTGATATCCAGAGTTCTTTCCACCCTGAGAAGCCCATCAGCCCTTTCAAAGCCCAGACTCTCTTAATCCAG GTGATCAGCGGTCAGCAACTCCCCAAAGTGGACAAGACCAAAGAGGGGTCCATTGTGGATCCACTGGTGAAAGTG ${\tt CAGATCTTTGGCGTTCGTCTAGACACAGCACGGCAGGAGACCAACTATGTGGAGAACAATGGTTTTAATCCATACCATACCATACCCATACATACCATACA$ TGGGGGCAGACACTATGTTTCCGGGTGCTGGTGCCTGAACTTGCCATGCTGCGTTTTGTGGTAATGGATTATGAC CACCTGCTGTCCAAAGATGGCATCAGCCTCCGCCCAGCTTCCATCTTTGTGTATATCTGCATCCAGGAAGGCCTG ${\tt GAGGGGGATGAGTCC} \underline{{\tt TGA}}{\tt GGTGGGCATTTCACGGGAAGGGTTGGTATGCTGGCTTTAGACGGGGAGAAACATCTG}$ GAAGGATGCTCGAGAGAACAAATGGAGGTGGTGAAAATCAAGCTTTGGATTGTGCATTCCTAGGCACAAAATTAC TAAGCCTTTGGTATCTTTCCTGCCCTTTTCCTTTGTGTACTCTATACTGGAGTTCCCTTCTTCCTCTTGCTGTAG GCTCAATCCCATACCGACATCTACAACTAATCTTTCCCATCAACTCTGTGTGAAGGCAGGTTGCAACTAGAAATT CAGAGGGGCTTGGAATAGAGAAACCTAAAGAAGCATCATCCCCTCCATCCCCAACTTCCTCAAAGCCCAAAGCCA AGGGAAGGATAAATCAAGGCTCAAGGCTTCCCCAGCAAAGATTAGGGAAAGAGACTTGACCCCAGGACTGTACTA CGACTCTTAAGAGAACACTGCACAGCACTCAAAGTCCCCCACTGGACTGCTTCCTCCTTAGCCCCACTGGTATAA

MASLLQDQLTTDQDLLLMQEGMPMRKVRSKSWKKLRYFRLQNDGMTVWHARQARGSAKPSFSISDVETIRNGHDS
ELLRSLAEELPLEQGFTIVFHGRRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMDHQERLDQWLSDWFQRGDKNQ
DGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADTSQSGTLEGEEFVQFYKALTKRAEVQELFESFSADGQKLTLL
EFLDFLQEEQKERDCTSELALELIDRYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYF
ICSSHNTYLVGDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQYAFQTS
DYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKILVKGKKLTLEEDLEYEEEEA
EPELEESELALESQFETEPEPQEQNLQNKDKKKKSKPILCPALSSLVIYLKSVSFRSFTHSKEHYHFYEISSFSE
TKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAGCQMVAMNMQTAGLEMDICDGHFRQNGGCG
YVLKPDFLRDIQSSFHPEKPISPFKAQTLLIQVISGQQLPKVDKTKEGSIVDPLVKVQIFGVRLDTARQETNYVE
NNGFNPYWGQTLCFRVLVPELAMLRFVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPASIFVY
ICIQEGLEGDES

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TTCTCCCCCAGGCTCACTCACCATGACCAAGCTGAGCGCCCAAGTCAAAGGCTCTCTCAACATCACCACCCCGGG GAAAGGGGGCGTGGCTTCTGGCATGAAGCACGTGGAGACCCAACTCCTATGACGTCCAGAGGCTGCTGCATGTCAA GGGCAAGAGGAACGTGGTAGCTGGAGAGGTAGAGATGTCCTGGAAGAGTTTCAACCGAGGGGATGTTTTCCTCCT GGACCTTGGGAAGCTTATCATCCAGTGGAATGGACCGGAAAGCACCCGTATGGAGAGACTCAGGGGCATGACTCT GGCCAAGGAGATCCGAGACCAGGAGCGGGGGGGGGCGCACCTATGTAGGCGTGGTGGACGGAGAAATGAATTGGC ATCCCCGAAGCTGATGGAGGTGATGAACCACGTGCTGGGCAAGCGCAGGGAGCTGAAGGCGGCCGTGCCCGACAC GGTGGTGGAGCCGGCACTCAAGGCTGCACTCAAACTGTACCATGTGTCTGACTCCGAGGGGAATCTGGTGGTGAG GGAAGTCGCCACACGGCCACTGACACAGGACCTGCTCAGTCACGAGGACTGTTACATCCTGGACCAGGGGGGCCT GAAGATCTACGTGTGGAAAGGGAAGAAGCCAATGAGCAGGAGAAGAAGGGAGCCATGAGCCATGCGCTGAACTT CATCAAAGCCAAGCAGTACCCACCAAGCACACAGGTGGAGGTGCAGAATGATGGGGCTGAGTCGGCCGTCTTTCA GCAGCTCTTCCAGAAGTGGACAGCGTCCAACCGGACCTCAGGCCTAGGCAAAACCCACACTGTGGGCTCCGTGGC AGATGATGGGAGTGGGGAAGTGCAGGTGTGGCGCATTGAGAACCTAGAGCTGGTACCTGTGGATTCCAAGTGGCT CTACGTTTGGCAGGGCAGCCAGGCCAGGCCAAGATGAAATTACAGCATCAGCTTATCAAGCCGTCATCCTGGACCA GAAGTACAATGGTGAACCAGTCCAGATCCGGGTCCCAATGGGCAAGGAGCCACCTCATCTTATGTCCATCTTCAA GGGACGCATGGTGGTCTACCAGGGAGGCACCTCCCGAACTAACAACTTGGAGACCGGGCCCTCCACACGGCTGTT CCAGGTCCAGGGAACTGGCGCCAACAACACCAAGGCCTTTGAGGTCCCAGCGCGGGCCAATTTCCTCAATTCCAA CTTCTGGATGGCCCTGGGTGGGAAGGCCCCCTATGCCAACACCAAGAGACTACAGGAAGAAAACCTGGTCATCAC CCCCCGGCTCTTTGAGTGTTCCAACAAGACTGGGCGCTTCCTGGCCACAGAGATCCCTGACTTCAATCAGGATGA CTTGGAAGAGGATGATGTTCCTACTAGATGTCTGGGACCAGGTCTTCTTCTGGATTGGGAAACATGCCAACGA GGAGGAGAAGAAGGCCGCAGCAACCACTGCACAGGAATACCTCAAGACCCATCCCAGCGGGCGTGACCCTGAGAC GTGGAGTAACACCAAATCCTATGAGGACCTGAAGGCGGAGCTTGGCAACTCTAGGGACTGGAGCCAGATCACTGC TGAGGTCACAAGCCCCAAAGTGGACGTGTTCAATGCTAACAGCAACCTCAGTTCTGGGCCTCTGCCCATCTTCCC GTCCATTGAAGATTTCACTCAGGCCTTTGGGATGACTCCAGCTGCCTTCTCTGCTCTGCCTCGATGGAAGCAACA AAACCTCAAGAAAAAAAAGGACTATTTTGAGAAGAGTAGCTGTGGTTGTAAAGCAGTACCCTACCCTGATTGTA GGGTCTCATTTTCTCACCGATATTAGTCCTACACCAATTGAAGTGAAATTTTGCAGATGTGCCTATGAGCACAAA CTTCTGTGGCAAATGCCAGTTTTGTTTAATAATGTACCTATTCCTTCAGAAAGATGATACCCC

ATCGACTCTGGGAGGCGTTTGGGCCCAGAGAAGTGGATCCGCCGCTTGCGCCGCATGGAGTCCGAATCGGAAAGC GGGGCTGCTGACACCCCCCCACTGGAGACCCTAAGCTTCCATGGTGATGAAGAGATTATCGAGGTGGTAGAA CTTGATCCCGGTCCGCCGGACCCAGATGACCTGGCCCAGGAGATGGAAGATGTGGACTTTGAGGAAGAAGAAGAGAG GAAGAGGGCAACGAAGAGGGCTGGGTTCTAGAACCCCAGGAAGGGGTGGTCGGCAGCATGGAGGGCCCCGACGAT AGCGAGGTCACCTTTGCATTGCACTCAGCATCTGTGTTTTTGTGTGAGCCTGGACCCCAAGACCCAATACCTTGGCA GTGACCGGGGGTGAAGATGACAAAGCCTTCGTATGGCGGCTCAGCGATGGGGAGCTGCTCTTTGAGTGTGCAGGC CATAAAGACTCTGTGACTTGTGCTGGTTTCAGCCATGACTCCACTCTAGTGGCCACAGGGGACATGAGTGGCCTC CATCCTCGGGCACCTGTCCTGTTGGCGGCCACAGCTGACGCAACACCTGGATGTGGAAAGTCCCGAATGGTGAC TGCAAGACCTTCCAGGGTCCCAACTGCCCAGCCACCTGTGGCCGAGTCCTCCCTGATGGGAAGAGAGCTGTGGTA GGCTATGAAGATGGGACCATCAGGATTTGGGACCTGAAGCAGGGAAGCCCTATCCATGTACTGAAAGGGACTGAG GGTCACCAGGGCCCACTCACCTGTGTTGCTGCCAACCAGGATGGCAGCTTGATCCTAACTGGCTCTGTGGACTGC CAGGCCAAGCTGGTCAGTGCCACCACCGGCAAGGTGGTGGTGTTTTTTAGACCTGAGACTGTGGCCTCCCAGCCC AGCCTGGGAGAAGGGGAGAGTGAGTCCAACTCGGTGGAGTCCTTGGGCTTCTGCAGTGTGATGCCCCTGGCA GCTGTTGGCTACCTGGATGGGACCTTGGCCATCTATGACCTGGCTACGCAGACTCTTAGGCATCAGTGTCAGCAC CAGTCGGGCATCGTGCAGCTGTGGGAGGCAGGCACTGCCGTGGTATATACCTGCAGCCTGGATGGCATCGTG CGCCTCTGGGACGCCCGGACCGCCTGCTTACTGACTACCGGGGCCACACGGCTGAGATCCTGGACTTTGCC $\verb|CTCAGCAAAGATGCCTCCCTGGTGGTGACCACGTCAGGAGACCACAAAGCGAAAGTATTTTGTGTCCAAAGGCCT| \\$ GACCGT<u>TAA</u>TGGCTGCAGCCCCTGCCTGTGTGTCTGGTGTTGAGGGGACGAAGGGACCCCTGCCCCTGTCTGCCA GCAGAGGCAGTAGGGCACAGAGGGAAGAGGGGGGGGGGCCCTGGATGACTTTCCAGCCTCTTCAACTGACTTGC TCCCCTCTCCTTTTCTTCTTTTAGAGACCCAGCCCAGGCCCTCCCACCCTTGCCCAGACCTGGTGGGCCCTTC AGAGGGAGGGTGGACCTGTTTCTCTTTCACTTTCATTTGCTGGTGTGAGCCATGGGGTGTGTATTTGTATGTGG GGAGTAGGTGTTTGAGGTTCCCGTTCTTTCCCTTCCCAAGTCTCTGGGGGTGGAAAGGAGGAAGAGATACTAGTT AAAGATTTTAAAAATGTAAATAAAATATACTTCCCAG

MDSGRRLGPEKWIRRLRRMESESESGAAADTPPLETLSFHGDEEIIEVVELDPGPPDPDDLAQEMEDVDFEEEEE EEGNEEGWVLEPQEGVVGSMEGPDDSEVTFALHSASVFCVSLDPKTNTLAVTGGEDDKAFVWRLSDGELLFECAG HKDSVTCAGFSHDSTLVATGDMSGLLKVWQVDTKEEVWSFEAGDLEWMEWHPRAPVLLAGTADGNTWMWKVPNGD CKTFQGPNCPATCGRVLPDGKRAVVGYEDGTIRIWDLKQGSPIHVLKGTEGHQGPLTCVAANQDGSLILTGSVDC QAKLVSATTGKVVGVFRPETVASQPSLGEGEESESNSVESLGFCSVMPLAAVGYLDGTLAIYDLATQTLRHQCQH QSGIVQLLWEAGTAVVYTCSLDGIVRLWDARTGRLLTDYRGHTAEILDFALSKDASLVVTTSGDHKAKVFCVQRP DR

GCCGCCGCCATGATCCTGCTGGAGGTGAACAACCGCATCATCGAGGAGACGCTCGCGCTCAAGTTCGAGAACGCG GCCGCCGGAAACAAACCGGAAGCAGTAGAAGTAACATTTGCAGATTTCGATGGGGTCCTCTATCATATTTCAAAT CCTAATGGAGACAAAACAAAAGTGATGGTCAGTATTTCTTTGAAATTCTACAAGGAACTTCAGGCACATGGTGCT GATGAGTTATTAAAGAGGGTGTACGGGAGTTTCTTGGTAAATCCAGAATCAGGATACAATGTCTCTTTGCTATAT GACCTTGAAAATCTTCCGGCATCCAAGGATTCCATTGTGCATCAAGCTGGCATGTTGAAGCGAAATTGTTTTGCC TCTGTCTTTGAAAAATACTTCCAATTCCAAGAAGAGGGGCAAGGAGGAGAACAGGGCAGTTATCCATTATAGG GATGATGAGACCATGTATGTTGAGTCTAAAAAGGACAGAGTCACAGTAGTCTTCAGCACAGTGTTTAAGGATGAC ${\tt GTCCTCTTTAGCCACAGGGAACCTCCTCTGGAGCTGAAAGACACAGGCCGCTGTGGGTGACAACATTGGCTAC}$ ATTACCTTTGTGCTGTTCCCTCGTCACACCAATGCCAGTGCTCGAGACAACACCATCAACCTGATCCACACGTTC CGGGACTACCTGCACTACCACATCAAGTGCTCTAAGGCCTATATTCACACACGTATGCGGGCGAAAACGTCTGAC TTCCTCAAGGTGCTGAACCGCGCACGCCCAGATGCCGAGAAAAAAGAAATGAAAACAATCACGGGGAAGACGTTT ${\tt TCATCCCGC} \underline{{\tt TAA}} {\tt TCTTGGGAATAAGAGGGGGGAAGCGGCTGGCAACTGAAGGCTGGAACACTTGCTACTGGATAAT$ CGTAGCTTTTAATGTTGCGCCTCTTCAGGTTCTTAAGGGATTCTCCGTTTTGGTTCCATTTTGTACACGTTTGGA

MILLEVNNRIIEETLALKFENAAAGNKPEAVEVTFADFDGVLYHISNPNGDKTKVMVSISLKFYKELQAHGADEL LKRVYGSFLVNPESGYNVSLLYDLENLPASKDSIVHQAGMLKRNCFASVFEKYFQFQEEGKEGENRAVIHYRDDE TMYVESKKDRVTVVFSTVFKDDDDVVIGKVFMQEFKEGRRASHTAPQVLFSHREPPLELKDTDAAVGDNIGYITF VLFPRHTNASARDNTINLIHTFRDYLHYHIKCSKAYIHTRMRAKTSDFLKVLNRARPDAEKKEMKTITGKTFSSR

MNNKFDALKDDDSGDHDQNEENSTQKDGEKEKTERDKNQSSSKRKAVVPGPAEHPLQYNYTFWYSRRTPGRPTSS QSYEQNIKQIGTFASVEQFWRFYSHMVRPGDLTGHSDFHLFKEGIKPMWEDDANKNGGKWIIRLRKGLASRCWEN LILAMLGEQFMVGEEICGAVVSVRFQEDIISIWNKTASDQATTARIRDTLRRVLNLPPNTIMEYKTHTDSIKMPG RLGPQRLLFQNLWKPRLNVP

GGCACGAGGAGAGCCTCGAGCCTGCGAGGAGCGCGCCGCCAGCTCCCTGCGTCCCGCGCCCCGCG GGAGGCCGAGGAGAGTGGCCCCAGCTGGCTCCCCTCGGCGCCCCAGCCCCGAGCCCAAGCCCGAGCCCAAGCC TCCCGCCCGTGCGCCCACGCCAGCCGACGCGAGCTGAGCCCCAGCTGAGCCGGCGGCTGGACATCAACGA GGGCGCTGCGGGCCCCGGCGCTGCAGGGTCTTCAACCCCTACACGGAGTTCCCGGAGTTCAGCCGCCGCCTCAT CAAGGACCTGGAGAGCATGTTCAAACTGTATGACGCTGGGCGGGATGGCTTCATCGACCTGATGGAGCTGAAGCT GATGATGGAGAAGCTGGGGGCCCCCAGACCCACCTGGGCCTGAAGAGCATGATCAAGGAGGTGGATGAGGACTT CGATGGCAAGCTCAGCTTCCGGGAGTTCCTGCTCATTTTCCACAAGGCCGCGGCAGGGGAGCTGCAGGAGGACAG TGGGCTGATGGCGCTGGCAAAGCTTTCTGAGATCGATGTGGCCCTGGAGGGTGTCAAAGGTGCCAAGAACTTCTT TGAAGCCAAGGTCCAAGCCTTGTCATCGGCCAGTAAGTTTGAAGCAGAGTTGAAAGCTGAGCAAGATGAGCGGAA ${\tt GCGGGAGGAGGAGGAGGCGGCTCCGCCAGGCAGCCTTCCAGAAACTCAAGGCCAACTTCAATACA{\tt TAG}{\tt TCCTG}$ CTGACCTTGCCCTCTGCCCACAGCTGTGCCTCACAGATGCCCCGAGAAGAGATGACTAGGCATCTTCATCACTGC TGTCGGTCCCCTGAGCCAGCATCTCCATCCACCACCCGTGCCAGCTCCCGTGCCAGCCTTCATTCCTCCC $\tt CTGCCCTTCTTATAGCCAGAACTTGTATCTTCTCAGCAACCTTCACTTTGTCCTTGTCCCTTTACCATTCCCCAT$ TCGGAGAATTCTCTGCACTCCTCTCTCTCACATTCAACTTCCCTGTTCTCATCTTTGGTAGGATTCTGCCAGT TGCTTTTGCATCTTCTGTTCCTGGGTAATGGTGGGTCTTAATGGAGGCTGGGTGGACCACTGCCCGTCCACTCTT TTCTCCTGGCCCCTTAGCATTCCCCCAGTCCCTCCTCTTCACCTTGCTCCGTCTATGTCTTCCCAGCTCAGCCT TTTCCCCACTCTTAAATACTGTACTACTTCACTGTAAGAACGAAAGAATAGTTAGGATACCAATGAGTAAAAGGG TTCCTGTTCACTCTGACTCTGTGCAAATTGTATTACAGTAGACCGCTGACGTTCCCAAGTGACAGATCCAGGGCC TTTCAAACATCCCCAAAGTCATGGCCATACTCACCATTAGCCAGTTTCTAACATCTGTTTCAGGGTATCCAGCTG TAGATGTTCTTATCCCCCATACTTGTGAGTTATTGGGGTTGCTCACAAATACTAGGGGTTTTTGTTGTATTTTTA ACAAATATATCCTAATGTCATATTTATTCTCTTTTGTAACTGCTGTCTTTACAATAAAGAAATCATCTGCCTTTC ТАААААААААААААААААААА

MASEELACKLERRLRREEAEESGPQLAPLGAPAPEPKPEPEPPARAPTASADAELSAQLSRRLDINEGAARPRRC RVFNPYTEFPEFSRRLIKDLESMFKLYDAGRDGFIDLMELKLMMEKLGAPQTHLGLKSMIKEVDEDFDGKLSFRE FLLIFHKAAAGELQEDSGLMALAKLSEIDVALEGVKGAKNFFEAKVQALSSASKFEAELKAEQDERKREEEERRL RQAAFQKLKANFNT

 ${\tt MVPCWNHGNITRSKAEELLSRTGKDGSFLVRASESISRAYALCVLYRNCVYTYRILPNEDDKFTVQKSEPDFSRY} \\ {\tt WQRKGVNDEEGSARAGCSSRQGAGLKVWGDHRQVPGGKNPPEVVKRESVVSRTPLRKTAYEDGRNCFEERCD}$

CTTCGGGTGTACGTGCTCCGGGATCTTCAGCACCCGCGGCCGCCATCGCCGTCGCTTGGCTTCTTCTGGACTCAT CTGCGCCACTTGTCCGCTTCACACTCCGCCGCCATCATGCTGAAGCTCGCGAAGGCAGGTAAAAATCAAGGTGAC CCCAAGAAAATGGCTCCTCCAAAGGAGGTAGAAGAAGATAGTGAAGATGAGGAAATGTCAGAAGATGAAGAA GATGATAGCAGTGGAGAAGAGGTCGTCATACCTCAGAAGAAAGGCAAGAAGGCTGCTGCAACCTCAGCAAAGAAG GTGGTCGTTTCCCCAACAAAAAGGTTGCCAGTTGCCACCCAGCCAAGAAAGCAGCTGTCACTCCAGGCAAAAAG GCAGCAGCAACACCTGCCAAGAAGACAGTTACACCAGCCAAAGCAGTTACCACACCTGGCAAGAAGAGGGAGCCACA CCAGGCAAAGCATTGGTAGCAACTCCTGGTAAGAAGGGTGCTGCCATCCCAGCCAAGGGGGCAAAGAATGGCAAG AATGCCAAGAAGGAAGACAGTGATGAAGAGGAGGATGATGACAGTGAGGAGGATGAGGAGGATGACGAGGACGAG GATGAGGATGAAGATGAAATTGAACCAGCAGCGATGAAAGCAGCAGCTGCTGCCCCTGCCTCAGAGGATGAGGAC GATGAGGATGACGAAGATGATGAGGATGACGATGAGGAAGATGACTCTGAAGAAGAAGCTATGGAGACT ACACCAGCCAAAGGAAAGAAGCTGCAAAAGTTGTTCCTGTGAAAGCCAAGAACGTGGCTGAGGATGAAGATGAA GAAGAGGATGATGAGGACGACGACGACGACGAGATGATGAAGATGATGATGATGAAGATGATGAAGAGAGA GAGGAAGAAGAGGAGGAGGAAGAGCCTGTCAAAGAAGCACCTGGAAAACGAAAGAAGGAAATGGCCAAACAGAAA GCAGCTCCTGAAGCCAAGAAACAGAAAGTGGAAGGCACAGAACCGACTACGGCTTTCAATCTCTTTGTTGGAAAC CTAAACTTTAACAAATCTGCTCCTGAATTAAAAACTGGTATCAGCGATGTTTTTGCTAAAAATGATCTTGCTGTT GTGGATGTCAGAATTGGTATGACTAGGAAATTTGGTTATGTGGATTTTGAATCTGCTGAAGACCTGGAGAAAGCG TTGGAACTCACTGGTTTGAAAGTCTTTGGCAATGAAATTAAACTAGAGAAACCAAAAGGAAAAGACAGTAAGAAA GAGCGAGATGCGAGAACACTTTTGGCTAAAAATCTCCCTTACAAAGTCACTCAGGATGAATTGAAAGAAGTGTTT GAAGATGCTGCGGAGATCAGATTAGTCAGCAAGGATGGGAAAAGTAAAGGGATTGCTTATATTGAATTTAAGACA GAAGCTGATGCAGAGAAAACCTTTGAAGAAAAGCAGGGAACAGAGATCGATGGGCGATCTATTTCCCTGTACTAT ACTGGAGAAAAGGTCAAAATCAAGACTATAGAGGTGGAAAGAATAGCACTTGGAGTGGTGAATCAAAAACTCTG GTTTTAAGCAACCTCTCCTACAGTGCAACAGAAGAAACTCTTCAGGAAGTATTTGAGAAAGCAACTTTTATCAAA GTACCCCAGAACCAAAATGGCAAATCTAAAGGGTATGCATTTATAGAGTTTGCTTCATTCGAAGACGCTAAAGAA GCTTTAAATTCCTGTAATAAAAGGGAAATTGAGGGCAGAGCAATCAGGCTGGAGTTGCAAGGACCCAGGGGATCA CCTAATGCCAGAAGCCAGCCATCCAAAACTCTGTTTGTCAAAGGCCTGTCTGAGGATACCACTGAAGAGACATTA AAGGAGTCATTTGACGGCTCCGTTCGGGCAAGGATAGTTACTGACCGGGAAACTGGGTCCTCCAAAGGGTTTGGT TTTGTAGACTTCAACAGTGAGGAGGATGCCAAAGCTGCCAAGGAGGCCATGGAAGACGGTGAAATTGATGGAAAT AAAGTTACCTTGGACTGGGCCAAACCTAAGGGTGAAGGTGGCTTCGGGGGGTCGTGGTGGAGGCAGAGGCGGCTTT GGAGGACGAGGTGGTGGTAGAGGAGGCCGAGGAGGATTTGGTGGCAGAGGCCGGGGAGGCTTTGGAGGGCCAGGA GGCTTCCGAGGAGGCAGAGGAGGAGGAGGTGACCACAAGCCACAAGGAAAGAAGACGAAGTTTGAA<u>TAG</u>CTTCTG TCCCTCTGCTTTCCCTTTTCCATTTGAAAGAAAGGACTCTGGGGTTTTTACTGTTACCTGATCAATGACAGAGCC TTCTGAGGACATTCCAAGACAGTATACAGTCCTGTGGTCTCCTTGGAAATCCGTCTAGTTAACATTTCAAGGGCA ATACCGTGTTGGTTTTGACTGGATATTCATATAAACTTTTTAAAGAGTTGAGTGATAGAGCTAACCCTTATCTGT AAGTTTTGAATTTATATTGTTTCATCCCATGTACAAAACCATTTTTTCCTAC

GCGCAGCCATGATCACCTCGGCCGCTGGAATTATTTCTCTTCTGGATGAAGATGAACCACAGCTTAAGGAATTTG CACTACACAAATTGAATGCAGTTGTTAATGACTTCTGGGCAGAAATTTCCGAGTCCGTAGACAAAATAGAGGTTT TATACGAAGATGAAGGTTTCCGGAGTCGGCAGTTTGCAGCCTTAGTGGCATCTAAAGTATTTTATCACCTGGGGG CTTTTGAGGAGTCTCTGAATTATGCTCTTGGAGCAGGGGACCTCTTCAATGTCAATGATAACTCTGAATATGTGG AAACTATTATAGCAAAATGCATTGATCACTACACCAAACAATGTGTGGAAAATGCAGATTTGCCTGAAGGAGAAAA AACAGGCTATTGGCATTGCTCTGGAGACACGAAGACTGGACGTCTTTGAAAAGACCATACTGGAGTCGAATGATG TCCCAGGAATGTTAGCTTATAGCCTTAAGCTCTGCATGTCTTTAATGCAGAATAAACAGTTTCGGAATAAAGTAC TAAGAGTTCTAGTTAAAATCTACATGAACTTGGAGAAACCTGATTTCATCAATGTTTGTCAGTGCTTAATTTTCT TAGATGATCCTCAGGCTGTGAGTGATATCTTAGAGAAACTGGTAAAGGAAGACAACCTCCTGATGGCATATCAGA TTTGTTTTGATTTGTATGAAAGTGCTAGCCAGCAGTTTTTGTCATCTGTAATCCAGAATCTTCGAACTGTTGGCA CCCCTATTGCTTCTGTGCCTGGATCCACTAATACGGGTACTGTTCCGGGATCAGAGAAAGACAGTGACTCGATGG AAACAGAAGAAAAGACAAGCAGTGCATTTGTAGGAAAGACACCAGAAGCCAGTCCAGAGCCTAAGGACCAGACTT TGAAAATGATTAAAATTTTAAGTGGTGAAATGGCTATTGAGTTACATCTGCAGTTCTTAATACGAAACAATAATA CAGACCTCATGATTCTAAAAAAACACAAAGGATGCAGTACGGAATTCTGTATGTCATACTGCAACCGTTATAGCAA ACTCTTTTATGCACTGTGGGACAACCAGTGACCAGTTTCTTAGAGATAATTTGGAATGGTTAGCCAGAGCCACTA ACTGGGCAAAATTTACTGCTACAGCCAGTTTGGGTGTAATTCATAAGGGTCATGAAAAAGAAGCATTACAGTTAA TGGCAACATACCTTCCCAAGGATACTTCTCCAGGATCAGCCTATCAGGAAGGTGGAGGTCTCTATGCACTAGGTC TTATTCATGCCAATCATGGTGGTGATATAATTGACTATCTGCTTAATCAGCTTAAGAACGCCAGCAATGATATCG TTAGACACGGTGGCAGTCTGGGCCTTGGTTTGGCAGCCATGGGAACTGCACGTCAAGATGTTTATGATTTGCTAA AAACAAACCTTTATCAGGATGATGCAGTAACAGGGGAAGCAGCTGGCCTGGCCCTAGGTTTGGTTATGTTGGGCT CTAAAAATGCTCAGGCTATTGAGGACATGGTTGGTTATGCACAAGAAACTCAACATGAGAAGATTCTGCGTGGTC TTGCAGTTGGCATAGCTTTAGTAATGTATGGGAGGATGGAAGAGGCTGATGCTCTCATTGAATCTCTCTGTCGTG ACAAGGACCCAATTCTTCGAAGGTCTGGAATGTATACTGTAGCCATGGCTTATTGTGGCTCTGGTAACAACAAAG CAATTCGACGCCTGCTACATGTTGCTGTAAGTGATGTTAATGATGATGTCAGGAGGGCAGCAGTAGAATCACTTG GGTTCATTCTATTCAGAACCCCTGAACAGTGCCCAAGTGTTGTCTCTTTGTTGTCAGAGAGTTACAACCCTCATG TGCGCTACGGAGCTGCAATGGCCTTGGGGATATGCTGTGCTGGTACAGGAAACAAGGAAGCCATTAATTTGCTAG AACCAATGACAAACGACCCCGTGAACTACGTGAGGCAAGGGGCACTCATAGCTTCAGCTCTCATCATGATCCAGC AGACTGAAATCACTTGTCCAAAGGTGAATCAGTTCAGACAGCTGTATTCCAAAGTCATCAATGATAAGCATGATG ATGTCATGGCCAAGTTTGGCGCTATTCTGGCCCAGGGCATACTGGATGCAGGTGGTCATAATGTCACAATCTCCT TGCAGTCCAGGACTGGGCATACTCATATGCCTTCTGTGGTTGGCGTCCTTGTATTTACCCAGTTTTGGTTCTGGT TTCCTCTTTCACACTTCCTGTCATTGGCTTATACCCCTACCTGTGTCATTGGCCTTAACAAGGACTTAAAGATGC CGAAAGTTCAGTATAAATCGAACTGTAAACCATCCACATTTGCATATCCTGCCCCTCTGGAAGTACCAAAAGAAA AAGAAAAGGAAAAGGTTTCTACTGCTGTATTATCTATAACTGCCAAGGCTAAAAAAGAAGGAAAAAGAAAAGGAAAAAGGAAA GTAGATACCAGCCTTTCAAACCACTCTCTATTGGAGGCATCATCATTCTGAAGGATACCAGTGAAGACATTGAGG AGCTGGTGGAACCTGTGGCACATGGCCCAAAAATCGAGGAGGAACAAGAGCCAGAACCCCCAGAACCAT TTGAGTATATTGATGATTAAGGGCCAGAGGATCTCACTTGCTTATCTGAAGAAGATTGTCCAGGCTCATATTGGG AATGCTTATGAGGAAATTCATGCCGAGACCTGCTATTCAATGCATGTATCGTTGCCTCTGCACTGACCTGAAGAA CCCTGTCTCCAAGTCTTTGGTTGAAGAGAAGATATATGACTGTTGAGTGTGCTCTTTCACAGAACTTGGTTTTCA AATAAATATAAGATCTCCAGATGGACAAG

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CTGCAAGCCGCCGGAGCCGGCAACCAGTGGAAGGAGCCTGGGAGAGGCCAGGCCTCCCCGGACTGCTAGCCTGC CAGGAACCTGAGGAGGAGCTGCCACTAACAGCCATATTTCCCA**ATG**GAGACTGTGATGACCTTGGAAGGGGGTCA AAAGCCTGTGATGGAGTCGTACACACTCCTGCTGAGCCCACCGGAGACTCAAGATGAAGGCTGGACCCTTGCGCT GTCCCTGGCTCTAACCTACAGACTGGGGCCTGGCTCCGTCTTACTGGCCCCCAGGTCTCCATGGAGACTGCAGAA ACCCCCGCTGCTGGAGGCCTGCCACACTCACAGTTACCAGCTAGACAGTGGGGCTTACTAAGACAAGCAGGACC TAAAACAGTGTCTCCCCTGGGAACCTACTCCCCACCAGCATTTGCTAAGTCTGATCACAGGGAGGTTATTTTGT CTCTCTGTCTCGGTTTCTCTGAGCCACTGAGACAGATGGCTGTCCGCTTTGAGGCTCTGCAGAGCTGTGGCACCC ${\tt CATGGTGTCTGCAGTGTTCTGGGCACATGCATGGGCACCCATCGTTGAGAGTGCAGCTGGGAAGAACTCTGAAGTGCAGCTGGGAAGAACTCTGAAGTGCAGTGCAGTGCAGTGCAGTGCAGTGCAGTGCAGAGTGCAGCTGGGAAGAACTCTGAAGTGCA$ ${\tt CCAGAAGTCATCAGAGCTGAGGCATGGCCTTGAACATGTCACTCAGTCTCTGGGGCTTCTGTTTCACAAATGCAT}$ TTGAGGGGGTCACAGTGACTGTGGGGGCACCCCTGGCATCTAGTGGGCATCCCACAATGTGCAGAACAGTCTCTG ACAGCAAAGAATTGGTCCATTCAATGCCAATTGTAGTACCTTTGAGACATTCTGGCTGAGCCAATGCCTTCTCCC TGTCAGAGTCCCCCAGAGCAGAGGGGTCAGGCTTCCCTGGACCTTGGCTCCCAGAGCAAGCCAAAATAAAGACT ACACTGTTGCCTTGGGGGCTTGTCGGGCCAGGGCCAAGACGGTCTGCGTGCTGCAGGGCCAGGACAGAAATAGCC ACACATGCCGGTGAGAACAAAGAGCCTCTTTCTTTCTCATGTTGACATCGACTTTCTGTGCCAAGTCCTTTGGGT TGCTCTAGCTCTAGCTCTAGCCCAAGCTCAATGCAAACACAGCCCCTCCGGGCTCTCTGTTTCTGTGAGGTTC TGGAATCCCTTCCTCTGTGTCCGTGAGTCTGACAGAATCGATGATGTTCCCTTAGAGCTGGGAAATCCATGTGTT CAGTTTACGCAGCAGACACACACTGCGCCTACTATTTGCTCGGTGCCCTGCAAGGTGCTGCCTAACTTTGATTT GTTATTTCAGCTCTCCAGGATAGTGCCAAATGGTGCAATGGGAAACCTGTTTTGCTGGGGGGGCTCTAGATCAC TGGCTCCAGAACTCCCGGCTGCCAGGGTAGCCCCTACCCCCAGCCCCTTGCTCCTGGACAGCAGTGGGTCTCACC TTTAGCCTCTGCCCCCAGTTCTGGTCTGACCCAACAGAGGGGCTCTATGATATTAAGAAGGGGCCCTTCCTGCTC ATCTATCCAGCTGCTTCCTTGTAGCCAAGAATGAGTTCAATGAATTGTGATTCACTGATTTTATTGATTTTGTTT TTAAAGTTTTCTTATTTAGTGGG

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 ${\tt METVMTLEGGQKPVMESYTLLLSPPETQDEGWTLALSLALTYRLGPGSVLLAPRSPWRLQKPPPAGGLPHSQLPARQWGLLRQAGPKTVSPLGTYSPPSIC}$

TCAAGGGCGACAAGGCTGACAAGGCGTCGGCGTCGGCCCTGCGCCGGCCTCGGCCACCGAGATCCTGCTGACGC TGGGCATGGTCGTGCTCATGGGCCTCGTGTTCGCCTCTGTCTACAGATACTTCTTCCTTGCGCAGC TGGCCCGAGATAACTTCTTCCGCTGTGGTGTGCTGTATGAGGACTCCCTGTCCTCCCAGGTCCGGACTCAGATGG AGCTGGAAGAGGATGTGAAAATCTACCTCGACGAGAACTACGAGCGCATCAACGTGCCTGTGCCCCAGTTTGGCG GCGGTGACCCTGCAGACATCATCCATGACTTCCAGCGGGGTCTGACTGCGTACCATGATATCTCCCTGGACAAGT GCTATGTCATCGAACTCAACACCACCATTGTGCTGCCCCCTCGCAACTTCTGGGAGCTCCTCATGAACGTGAAGA GGGGGACCTACCTGCCGCAGACGTACATCATCCAGGAGGAGATGGTGGTCACGGAGCATGTCAGTGACAAGGAGG CCCTGGGGTCCTTCATCTACCACCTGTGCAACGGGAAAGACACCTACCGGCTCCGGCGCCGGGCAACGCGGAGGC GGATCAACAAGCGTGGGGCCAAGAACTGCAATGCCATCCGCCACTTCGAGAACACCTTCGTGGTGGAGACGCTCA $\tt CTGGCCCTCCTTCCCCCTGCTTAGCTTGTACTTTGGACGCGTTTCTATAGAGGTGACATGTCTCCATTCC$ TCTCCAACCCTGCCCACCTCCCTGTACCAGAGCTGTGATCTCTCGGTGGGGGGCCCATCTCTGCTGACCTGGGTG TGGCGGAGGGAGAGCCGATGCTGCAAAGTGTTTTCTGTGTCCCACTGTCTTGAAGCTGGGCCTGCCAAAGCCTGG GCCCACAGCTGCACCGGCAGCCCAAGGGGAAGGACCGGTTGGGGGAGCCGGGCATGTGAGGCCCTGGGCAAGGGG ATGGGGCTGTGGGGCGGGGGGCGCATGGGCTTCAGAAGTATCTGCACAATTAGAAAAGTCCTCAGAAGCTTTTTC TTGGAGGGTACACTTTCTTCACTGTCCCTATTCCTAGACCTGGGGCTTGAGCTGAGGATGGGACGATGTGCCCAG GGAGGGACCCACCAGAGCACAAGAGAAGGTGGCTACCTGGGGGTGTCCCAGGGACTCTGTCAGTGCCTTCAGCCC ACCAGCAGGAGCTTGGAGTTTGGGGAGTGGGGATGAGTCCGTCAAGCACAACTGTTCTCTGAGTGGAACCAAAGA AGCAAGGAGCTAGGACCCCCAGTCCTGCCCCCAGGAGCACAAGCAGGGTCCCCTCAGTCAAGGCAGTGGGATGG GCGGCTGAGGAACGGGGCAGGCAAGGTCACTGCTCAGTCACGTCCACGGGGGACGAGCCGTGGGTTCTGCTGAGT ${\tt AGGTGGAGCTCATTGCTTTCTCCAAGCTTGGAACTGTTTTGAAAGATAACACAGAGGGAAAGGGAAGCCACCTG}$ GTACTTGTCCACCCTGCCTCTGTTCTGAAATTCCATCCCCTCAGCTTAGGGGAATGCACCTTTTTCCCTTT CCTTCTCACTTTTGCATGTTTTTACTGATCATTCGATATGCTAACCGTTCTCAGCCCTGAGCCTTGGAGAGGAGG GCTGTAACGCCTTCAGTCAGTCTCTGGGGATGAAACTCTTAAATGCTTTGTATATTTTCTCAATTAGATCTCTTT TCAGAAGTGTCTATAGAACAATAAAAATCTTTTACTTCTG

MVKISFQPAVAGIKGDKADKASASAPAPASATEILLTPAREEQPPQHRSKRGGSVGGVCYLSMGMVVLLMGLVFA SVYIYRYFFLAQLARDNFFRCGVLYEDSLSSQVRTQMELEEDVKIYLDENYERINVPVPQFGGGDPADIIHDFQR GLTAYHDISLDKCYVIELNTTIVLPPRNFWELLMNVKRGTYLPQTYIIQEEMVVTEHVSDKEALGSFIYHLCNGK DTYRLRRRATRRRINKRGAKNCNAIRHFENTFVVETLICGVV

GTTTTGCCTGCTAGCATCTCCCTGTAACTCTCCCAATCTTGAGGAGTGATCCCTGTCCCAGCCCCTGGAAAGGGG ${\tt CAGGAACGACAAACTCAAAGTCCAGG} \underline{{\tt ATG}} {\tt TTCACCATGACAAGAGCCATGGAAGAGGCTCTTTTTCAGCACTTCA}$ TGCACCAGAAGCTGGGGATCGCCTATGCCATACACAAGCCATTTCCCTTCTTTGAAGGCCTCCTAGACAACTCCA TCATCACTAAGAGAATGTACATGGAATCTCTGGAAGCCTGTAGAAATTTGATCCCTGTATCCAGAGTGGTGCACA ACATTCTCACCCAACTGGAGAGGACTTTTAACCTGTCTCTTCTGGTGACATTGTTCAGTCAAATTAACCTGCGTG AATATCCCAATCTGGTGACGATTTACAGAAGCTTCAAACGTGTTGGTGCTTCCTATGAACGGCAGAGCAGAGACA CACAACCCCTCAACCAAGCTGTTCACCCTGTGCGCCAAGAGTCAGTGAGCCTGGAACATCCTCCCAGCAAAGCG TCACTAGCACTGTGCAAGTGGCCAGTGACAACCTGATCCCCCAAATAAGAGATAAAGAAGACCCTCAAGAGATGC CCCACTCTCCCTTGGGCTCTATGCCAGAGATAAGAGATAATTCTCCAGAACCAAATGACCCAGAAGAGCCCCAGG ATAAGAAAAAAGCCTCCCAAGAGGGACAGCCTCATCTAGACACGGAATCCAAAAGAAGCTCAAAAGGGTGGATC AGGTTCCTCAAAAGAAGATGACTCAACTTGTAACTCCACGGTAGAGACAAGGGCCCAAAAGGCCGAGAACTGAAT TGGATAAGGTGACTCAAAGGAAAGACGACTCAACCTGGAACTCAGAGGTCATGATGAGGGTCCAAAAGGCAAGAA TTCAGAAAAATATTCACCGAAGAGGAAAACCCAAAAGTGACACTGTGGATTTTCACTGTTCTAAGCTCCCCGTGA CCTGTGGTGAGGCGAAAGGGATTTTATATAAGAAGAAAATGAAACACGGATCCTCAGTGAAGTGCATTCGGAATG ATATACGTTGTGAAGGAATGACCCTAGGAGAGCTGCTGAAGCGGAAAAACTCGGATGAATGCGAGGTGTGCTGTC AAGGGGGACAACTTCTCTGCTGCGGTACTTGTCCACGAGTCTTCCATGAGGACTGTCACATCCCCCCTGTGGAAG CCAAGAGGATGCTGTGGAGTTGCACCTTCTGCAGGATGAAGAGGTCTTCAGGAAGCCAACAGTGCCATCATGTAT CTAAGACCCTGGAGAGGCAGATGCAGCCTCAGGACCAGCTGATTCGAGATTACGGTGAGCCCTTTCAGGAAGCAA TGTGGTTGGACCTGGTTAAGGAAAGGCTGATTACGGAAATGTACACGGTGGCATGGTTTGTGCGAGACATGCGCC TGATGTTTCGCAACCATAAAACATTTTACAAGGCTTCTGACTTTGGCCAGGTAGGACTTGACTTAGAGGCAGAAT ${\tt TTGAAAAAGATCTCAAAGACGTGCTCGGTTTTCATGAAGCCAATGACGGCGGTTTCTGGACTCTTCCT}{\tt TGA}{\tt CCCT}$ GTTCTGTAAAGACTGAAGCATCCCCACCTCAGGATTCAGCTGATGGGACCCTGGCTTGGACTGTTGATTGCCAGT GAGTCTGGGATGTAATTGGCTGCCCTCAGGACCCAAACCCAGACACTTCATAGGATTATCACACCCTCCATCTTT ATTCTTTCTTTTTACCTTTAAAAGTCTATATCTA

MFTMTRAMEEALFQHFMHQKLGIAYAIHKPFPFFEGLLDNSIITKRMYMESLEACRNLIPVSRVVHNILTQLERT FNLSLLVTLFSQINLREYPNLVTIYRSFKRVGASYERQSRDTPILLEAPTGLAEGSSLHTPLALPPPQPPQPSCS PCAPRVSEPGTSSQQSDEILSESPSPSDPVLPLPALIQEGRSTSVTNDKLTSKMNAEEDSEEMPSLLTSTVQVAS DNLIPQIRDKEDPQEMPHSPLGSMPEIRDNSPEPNDPEEPQEVSSTPSDKKGKKRKCIWSTPKRRHKKKSLPRG TASSRHGIQKKLKRVDQVPQKKDDSTCNSTVETRAQKARTECARKSRSEEIIDGTSEMNEGKRSQKTPSTPRRVT QGAASPGHGIQEKLQVVDKVTQRKDDSTWNSEVMMRVQKARTKCARKSRSKEKKKEKDICSSSKRRFQKNIHRRG KPKSDTVDFHCSKLPVTCGEAKGILYKKKMKHGSSVKCIRNEDGTWLTPNEFEVEGKGRNAKNWKRNIRCEGMTL GELLKRKNSDECEVCCQGGQLLCCGTCPRVFHEDCHIPPVEAKRMLWSCTFCRMKRSSGSQQCHHVSKTLERQMQ PQDQLIRDYGEPFQEAMWLDLVKERLITEMYTVAWFVRDMRLMFRNHKTFYKASDFGQVGLDLEAEFEKDLKDVL GFHEANDGGFWTLP

GTTTTGCCTGCTAGCATCTCCCTGTAACTCTCCCAATCTTGAGGAGTGATCCCTGTCCCAGCCCCTGGAAAGGGG ${\tt CAGGAACGACAAACTCAAAGTCCAGG} \underline{\textbf{ATG}} {\tt TTCACCATGACAAGAGCCATGGAAGAGGCTCTTTTTCAGCACTTCA}$ TGCACCAGAAGCTGGGGATCGCCTATGCCATACACAAGCCATTTCCCTTCTTTGAAGGCCTCCTAGACAACTCCA TCATCACTAAGAGAATGTACATGGAATCTCTGGAAGCCTGTAGAAATTTGATCCCTGTATCCAGAGTGGTGCACA ACATTCTCACCCAACTGGAGAGGACTTTTAACCTGTCTCTTCTGGTGACATTGTTCAGTCAAATTAACCTGCGTG AATATCCCAATCTGGTGACGATTTACAGAAGCTTCAAACGTGTTGGTGCTTCCTATGAACGGCAGAGCAGAGACA CACAACCCCTCAACCAAGCTGTTCACCCTGTGCGCCAAGAGTCAGTGAGCCTGGAACATCCTCCCAGCAAAGCG TCACTAGCACTGTGCAAGTGGCCAGTGACAACCTGATCCCCCAAATAAGAGATAAAGAAGACCCTCAAGAGATGC CCCACTCTCCCTTGGGCTCTATGCCAGAGATAAGAGATAATTCTCCAGAACCAAATGACCCAGAAGAGCCCCAGG AGGTGTCCAGCACCCTTCAGACAAGAAAGGAAAGAAAAGAAAAGATGTATCTGGTCAACTCCAAAAAGGAGAC ATAAGAAAAAAGCCTCCCAAGAGGGACAGCCTCATCTAGACACGGAATCCAAAAGAAGCTCAAAAGGGTGGATC AGGTTCCTCAAAAGAAAGATGACTCAACTTGTAACTCCACGGTAGAGACAAGGGCCCAAAAGGCGAGAACTGAAT CGCCTAGTACACCACGAAGGGTCACACAAGGGGCAGCCTCACCTGGGCATGCCATCCAAGAGAAGCTCCAAGTGG TGGATAAGGTGACTCAAAGGAAAGACGACTCAACCTGGAACTCAGAGGTCATGATGAGGGTCCAAAAAGGCAAGAA TTCAGAAAAATATTCACCGAAGAGGAAAACCCAAAAGTGACACTGTGGATTTTCACTGTTCTAAGCTCCCCGTGA CCTGTGGTGAGGCGAAAGGGATTTTATATAAGAAGAAAATGAAACACGGATCCTCAGTGAAGTGCATTCGGAATG ATATACGTTGTGAAGGAATGACCCTAGGAGAGCTGCTGAAGAGTGGACTTTTGCTCTGTCCTCCAAGAATAAATC ${\tt TCAAGAGAGAGTTAAATAGCAAG{\tt TGA}{\tt ATTTCTACTACCCTCTCAGTCACCATGTTGCAGACTTTCCCTGTCTGGA}$ GGCTCACCTTAGAGCTTCTGAGTTTCCAAGCTCTGAGTCACCTCCACATTTGGGCATGGCATCTTCAAAACAATT AAAAAAAAAAA

MFTMTRAMEEALFQHFMHQKLGIAYAIHKPFPFFEGLLDNSIITKRMYMESLEACRNLIPVSRVVHNILTQLERT FNLSLLVTLFSQINLREYPNLVTIYRSFKRVGASYERQSRDTPILLEAPTGLAEGSSLHTPLALPPPQPPQPSCS PCAPRVSEPGTSSQQSDEILSESPSPSDPVLPLPALIQEGRSTSVTNDKLTSKMNAEEDSEEMPSLLTSTVQVAS DNLIPQIRDKEDPQEMPHSPLGSMPEIRDNSPEPNDPEEPQEVSSTPSDKKGKKRKRCIWSTPKRRHKKKSLPRG TASSRHGIQKKLKRVDQVPQKKDDSTCNSTVETRAQKARTECARKSRSEEIIDGTSEMNEGKRSQKTPSTPRRVT QGAASPGHGIQEKLQVVDKVTQRKDDSTWNSEVMMRVQKARTKCARKSRSKEKKKEKDICSSSKRRFQKNIHRRG KPKSDTVDFHCSKLPVTCGEAKGILYKKKMKHGSSVKCIRNEDGTWLTPNEFEVEGKGRNAKNWKRNIRCEGMTL GELLKSGLLLCPPRINLKRELNSK

GTTTTGCCTGCTAGCATCTCCCTGTAACTCTCCCAATCTTGAGGAGTGATCCCTGTCCCAGCCCCTGGAAAGGGG $\texttt{CAGGAACGACAAACTCAAAGTCCAGG} \underline{\textbf{ATG}} \texttt{TTCACCATGACAAGAGCCATGGAAGAGGCTCTTTTTCAGCACTTCA}$ TGCACCAGAAGCTGGGGATCGCCTATGCCATACACAAGCCATTTCCCTTCTTTGAAGGCCTCCTAGACAACTCCA TCATCACTAAGAGAATGTACATGGAATCTCTGGAAGCCTGTAGAAATTTGATCCCTGTATCCAGAGTGGTGCACA ACATTCTCACCCAACTGGAGAGGACTTTTAACCTGTCTCTTCTGGTGACATTGTTCAGTCAAATTAACCTGCGTG AATATCCCAATCTGGTGACGATTTACAGAAGCTTCAAACGTGTTGGTGCTTCCTATGAACGGCAGAGCAGAGACA CACAACCCCTCAACCAAGCTGTTCACCCTGTGCGCCAAGAGTCAGTGAGCCTGGAACATCCTCCCAGCAAAGCG TCACTAGCACTGTGCAAGTGGCCAGTGACAACCTGATCCCCCAAATAAGAGATAAAGAAGACCCTCAAGAGATGC CCCACTCTCCCTTGGGCTCTATGCCAGAGATAAGAGATAATTCTCCAGAACCAAATGACCCAGAAGAGCCCCAGG AGGTGTCCAGCACCCTTCAGACAAGAAAGGAAAGAAAAGAAGATGTATCTGGTCAACTCCAAAAAGGAGAC ATAAGAAAAAAGCCTCCCAAGAGGGACAGCCTCATCTAGACACGGAATCCAAAAGAAGCTCAAAAGGGTGGATC AGGTTCCTCAAAAGAAGATGACTCAACTTGTAACTCCACGGTAGAGACAAGGGCCCAAAAGGCCGAGAACTGAAT CGCCTAGTACACCACGAAGGGTCACACAAGGGGCAGCCTCACCTGGGCATGGCATCCAAGAGAAGCTCCAAGTGG TGGATAAGGTGACTCAAAGGAAAGACGACTCAACCTGGAACTCAGAGGTCATGATGAGGGTCCAAAAAGGCAAGAA TTCAGAAAAATATTCACCGAAGAGGAAAACCCAAAAGTGACACTGTGGATTTTCACTGTTCTAAGCTCCCCGTGA CCTGTGGTGAGGCGAAAGGGATTTTATATAAGAAGAAAATGAAACACGGATCCTCAGTGAAGTGCATTCGGAATG ATATACGTTGTGAAGGAATGACCCTAGGAGAGCTGCTGAAGCGGAAAAACTCGGATGAATGCGAGGTGTGCTGTC AAGGGGGACAACTTCTCTGCTGCGGTACTTGTCCACGAGTCTTCCATGAGGACTGTCACATCCCCCCTGTGGAAG CCAAGAGGATGCTGTGGAGTTGCACCTTCTGCAGGATGAAGAGGTCTTCAGGAAGCCAACAGTGCCATCATGTAT CTAAGACCCTGGAGAGGCAGATGCAGCCTCAGGACCAGCTGAAATGTGAGTTCCTCCTCTTGAAGGCCTACTGTC ATCCACAAAGCTCCTTTTTTACGGGCATCCCATTTAATATTCGAGATTACGGTGAGCCCTTTCAGGAAGCAATGT GGTTGGACCTGGTTAAGGAAAGGCTGATTACGGAAATGTACACGGTGGCATGGTTTGTGCGAGACATGCGCCTGA TGTTTCGCAACCATAAAACATTTTACAAGGCTTCTGACTTTGGCCAGGTAGGACTTGACTTAGAGGCAGAATTTG $AAAAAGATCTCAAAGACGTGCTCGGTTTTCATGAAGCCAATGACGGCGGTTTCTGGACTCTTCCT\underline{TGA}CCCTGTT$ CTGTAAAGACTGAAGCATCCCCACCTCAGGATTCAGCTGATGGGACCCTGGCTTGGACTGTTGATTGCCAGTGAG TCTGGGATGTAATTGGCTGCCCTCAGGACCCAAACCCAGACACTTCATAGGATTATCACACCCTCCATCTTTATT CTTTCTTTTTACCTTTAAAAGTCTATATCTA

MFTMTRAMEEALFQHFMHQKLGIAYAIHKPFPFFEGLLDNSIITKRMYMESLEACRNLIPVSRVVHNILTQLERT FNLSLLVTLFSQINLREYPNLVTIYRSFKRVGASYERQSRDTPILLEAPTGLAEGSSLHTPLALPPPQPPQPSCS PCAPRVSEPGTSSQQSDEILSESPSPSDPVLPLPALIQEGRSTSVTNDKLTSKMNAEEDSEEMPSLLTSTVQVAS DNLIPQIRDKEDPQEMPHSPLGSMPEIRDNSPEPNDPEEPQEVSSTPSDKKGKKRKCIWSTPKRRHKKKSLPRG TASSRHGIQKKLKRVDQVPQKKDDSTCNSTVETRAQKARTECARKSRSEEIIDGTSEMNEGKRSQKTPSTPRRVT QGAASPGHGIQEKLQVVDKVTQRKDDSTWNSEVMMRVQKARTKCARKSRSKEKKKEKDICSSSKRRFQKNIHRRG KPKSDTVDFHCSKLPVTCGEAKGILYKKKMKHGSSVKCIRNEDGTWLTPNEFEVEGKGRNAKNWKRNIRCEGMTL GELLKRKNSDECEVCCQGGQLLCCGTCPRVFHEDCHIPPVEAKRMLWSCTFCRMKRSSGSQQCHHVSKTLERQMQ PQDQLKCEFLLLKAYCHPQSSFFTGIPFNIRDYGEPFQEAMWLDLVKERLITEMYTVAWFVRDMRLMFRNHKTFY KASDFGQVGLDLEAEFEKDLKDVLGFHEANDGGFWTLP

1089/6881 FIGURE 1018

ATGCTGGGTACGCTGCGCCCATGGAGGGCGAGGACGTGGAAGACCAGCTGCTGCAGAAGCTCAGGGCCAGT CGCCGCCGCTTCCAGAGGCGCATGCAGCGGCTGATAGAGAAGTACAACCAGCCCTTCGAGGACACCCCGGTGGTG AAAGGAGATCCAGGACTCCTCCATGAAGCCCGCGGACAGGACAGATGGCTCCGTGCAAGCTGCAGCCTGGGGT CCTGAGCTTCCCTCGCACCGCACAGTCCTGGGAGCCGATTCAAAAAGCGGTGAGGTCGATGCCACGTCAGACCAG GAAGAGTCAGTTGCTTGGGCCTTAGCACCTGCAGTGCCTCAAAGCCCTTTGAAAAATGAATTAAGAAGGAAATAC TTGACCCAAGTGGATATACTGCTACAAGGTGCAGAGTATTTTGAGTGTGCAGGTAACAGAGCTGGAAGGGATGTA CGTGTGACTCCGCTGCCTCACCTGCCGTGCCTGCCCCGGATACTGCAGTCGTATCTCCGGAAAG GAAGATGATGACATTTGCAATGTGACCATCAGTGACCTGTACGCAGGG<u>ATG</u>CTGCACTCCATGAGCCGGCTGTTG AGCACAAAGCCATCAAGCATCATCTCCACCAAAACGTTCATCATGCAAAACTGGAACTGCAGGAGGAGGACACAGA TATAAGAGCAGGATGAACAAAACATATTGCAAAGGAGCCAGACGTTCTCAGAGGAGCTCCAAGGAGAACTTCATA CCCTGCTCTGAGCCTGTGAAAGGGACAGGGGCATTAAGAGATTGCAAGAACGTATTAGATGTTTCTTGCCGTAAG ACAGGTTTAAAATTGGAAAAAGCTTTTCTTGAAGTCAACAGACCCCAAATCCATAAGTTAGATCCAAGTTGGAAG GAGCGCAAAGTGACACCCTCGAAGTATTCTTCCTTGATTTACTTCGACTCCAGTGCAACATATAATCTTGATGAG GAAAATAGATTTAGGACATTAAAATGGTTAATTTCTCCTGTAAAAATAGTTTCCAGACCAACAATACGACAGGGC CATGGAGAACCGTCAGAGGGAGATTGAAATCCGATTTGATCAGCTTCATCGGGAATATTGCCTGAGTCCCAGG AACCAGCCTCGCCGGATGTGCCTCCCGGACTCCTGGGCCATGAACATGTACAGAGGGGGTCCTGCGAGTCCTGGT GGCCTTCAGGGCTTAGAAACCCGCAGGCTGAGTTTACCTTCCAGCAAAAGCAAAAAGTTTAAGTGAGGCT AAGACCAACCCCACACACGCGCAACTCGCCCGCAGCAGCATCTGACCTTCACGTTCAGGGAAATAGTTCTGGA CGTTACGATGAAATTAAAGAAGAATTTGACAAGCTTCATCAAAAGTATTGCCTCAAATCTCCTGGGCAGATGACA GTGCCTTTATGTATTGGAGTGTCTACAGATAAAGCAAGTATGGAAGTTCGATATCAAACAGAAGGCTTCTTAGGA AAATTAAATCCAGACCCTCACTTCCAGGGTTTCCAGAAGTTGCCATCATCACCCCTGGGGTGCAGAAAAAGTCTA CTGGGCTCAACTGCAATTGAGGCTCCTTCATCTACATGTGTTGCTCGTGCCATCACGAGGGATGGCACGAGGGAC CATCAGTTCCCTGCAAAAAGACCCAGGCTATCAGAACCCCAGGGCTCCGGACGCCAGGGCAATTCCCTGGGTGCC GAGAACACGTCTTACAGGATGGAAGAGAAAAGTGATTTCATGCTAGAAAAATTGGAAACTAAAAGTGTG**TAG**CTA GGTTATTTCGGAGTGTTATTTATCTTCCCACTTGCTCTCTGTTTGTATTTTTGTTTTTGTTTTTGATTCTTGAGAC TGTGAGGACTTGGTTGACTTCTCTGCCCTTAAAGTAAATATTAGTGAAATTGGTTCCATCAGAGATAACCTCGAG

1090/6881 FIGURE 1019

MLHSMSRLLSTKPSSIISTKTFIMQNWNCRRRHRYKSRMNKTYCKGARRSQRSSKENFIPCSEPVKGTGALRDCK
NVLDVSCRKTGLKLEKAFLEVNRPQIHKLDPSWKERKVTPSKYSSLIYFDSSATYNLDEENRFRTLKWLISPVKI
VSRPTIRQGHGENRQREIEIRFDQLHREYCLSPRNQPRRMCLPDSWAMNMYRGGPASPGGLQGLETRRLSLPSSK
AKAKSLSEAFENLGKRSLEAGRCLPKSDSSSSLPKTNPTHSATRPQQTSDLHVQGNSSGIFRKSVSPSKTLSVPD
KEVPGHGRNRYDEIKEEFDKLHQKYCLKSPGQMTVPLCIGVSTDKASMEVRYQTEGFLGKLNPDPHFQGFQKLPS
SPLGCRKSLLGSTAIEAPSSTCVARAITRDGTRDHQFPAKRPRLSEPQGSGRQGNSLGASDGVDNTVRPGDQGSS
SQPNSEERGENTSYRMEEKSDFMLEKLETKSV

AAGACCGTCCCGGATGGCCTCCGGGGACTGCCAGTGTGTGGAGGTGAGCTCCGGGATTGCCGGCATTCCCGCTTCT AGTGACATGTCGTCGGGCCTCCGCCGCTGACTTCCCCCGCTGGAAGCGCCACATCTCGGAGCAACTGAGGCGC CGGGACCGGCTGCAGAGACAGGCGTTCGAGGAGATCATCCTGCAGTATAACAAATTGCTGGAAAAGTCAGATCTT CATTCAGTGTTGGCCCAGAAACTACAGGCTGAAAAGCATGACGTACCAAACAGGCACGAGATAAGTCCCGGACAT TTACACAAGAAACGTGGGGAGTTAGCTCAACTGGTGATTGACCTGAATAACCAAATGCAGCGGAAGGACAGGGAG ATGCAGAAGAGCTTGCAGAAGCAGCAAAGGAACCTCTACCAGTCGAACAGGATGATGACATTGAGGTCATTGTG GATGAAACTTCTGATCACACAGAAGAGACCTCTCCTGTGCGAGCCATCAGCAGAGCAGCCACTAAGCGACTCTCG ${\tt CAGGACAATGTGGATACTCATCCTGGTTCTGGTAAAGAAGTGAGGGTACCAGCTACTGCCTTGTGTGTCTTCGAT}$ GCACATGATGGGGAAGTCAACGCTGTGCAGTTCAGTCCAGGTTCCCGGTTACTGGCCACTGGAGGCATGGACCGC AGGGTTAAGCTTTGGGAAGTATTTGGAGAAAAATGTGAGTTCAAGGGTTCCCTATCTGGCAGTAATGCAGGAATT ACAAGCATTGAATTTGATAGTGCTGGATCTTACCTCTTAGCAGCTTCAAATGATTTTGCAAGCCGAATCTGGACT $\tt GTGGATGATTATCGATTACGGGTAAGACCCAGT{\color{red}{TAA}}{GAAAGTTAGTGCAATCTCCAAACTTCATGTGGTGTTATC$ AAGGCACAAACTGGCAGGTGCTTAATTAGGGGACTTTGTTTTCCCAAAAATCATGCTTGATTCACCCTGCCCTTC CTTTCCTCCTTGGGGAAATCTGTGTTTCCACTTTATACTCTTTGTCCAAAACTCAGTTTCAAAATATTTGCAATG GGACCCTCACATTTGCATGAAAACCTTGGAATACTCTTCATAAGGACTAAATACTTTGGTAGATAGCAATTTTGG CTTAATGGCACAGAACTTAGCAACAGCATGTGAATTGTGATTCCTGTGGGCTCTAAAACCTAATTACCTAAAGTG GGATATAGAAGTACAAATGGATGTATCATAGGGATAAGACAATTCTGAAACAAAAACTCCAAGCTGAGAAAGAGG GGACAGGTGTCAGAGCAGGAGAAATGATTGGATGTTGAGGAAAGCTGCATTTGAACCAAAACTTGCCAAGAATT TGTAACTTAATTTGCAGACATTTTTTTTCCCCATAAGCCTGAAGGAATCATCACATAAGCTTATTAAATACAAGC TATTGAAAGATATAATGGAGGATGAATTTGGCATTAGTAGGCATTTTACT

1092/6881 FIGURE 1021

MSSGLRAADFPRWKRHISEQLRRRDRLQRQAFEEIILQYNKLLEKSDLHSVLAQKLQAEKHDVPNRHEISPGHDG TWNDNQLQEMAQLRIKHQEELTELHKKRGELAQLVIDLNNQMQRKDREMQKELAEAAKEPLPVEQDDDIEVIVDE TSDHTEETSPVRAISRAATKRLSQPAGGLLDSVTNIFGRRSVSSFPVPQDNVDTHPGSGKEVRVPATALCVFDAH DGEVNAVQFSPGSRLLATGGMDRRVKLWEVFGEKCEFKGSLSGSNAGITSIEFDSAGSYLLAASNDFASRIWTVD DYRLRVRPS

1093/6881 FIGURE 1022A

AAGAGAGAAGGCTTCTGCCAGCTCCTGCAGCAGAAGAACAAGCACTCAGAGCAGCCGGAGCCCGACATGATC GGGCAGGGAAAGACGCGGGACGACTCTGCGGACTACATCCCCCATGACATTTACGTGATCGGCACCCAAGAGGAC CCCCTGAGTGAGAAGGAGTGGCTGGAGATCCTCAAACACTCCCTGCAAGAAATCACCAGTGTGACTTTTAAAACA GTCGCCATCCACACGCTCTGGAACATCCGCATCGTGGTGCTGGCCAAGCCTGAGCACGAGAACCGGATCAGCCAC ATCTGTACTGACAACGTGAAGACAGGCATTGCAAACACACTGGGGAACAAGGGAGCCGTGGGGGGTGTCGTTCATG TTCAATGGAACCTCCTTAGGGTTCGTCAACAGCCACTTGACTTCAGGAAGTGAAAAGAAACTCAGGCGAAACCAA ACGCACCTCTTCTGGTTTGGGGATCTTAACTACCGTGTGGATCTGCCTACCTGGGAGGCAGAAACCATCATCCAG AAAATCAAGCAGCAGCAGTACGCAGACCTCCTGTCCCACGACCAGCTGCTCACAGAGAGGAGGAGGAGCAGAAGGTC GCCTACACCAAGCAGAAAGCGACAGGGATGAAGTACAACTTGCCTTCCTGGTGTGACCGAGTCCTCTGGAAGTCT TATCCCCTGGTGCACGTGGTGTCAGTCTTATGGCAGTACCAGCGACATCATGACGAGTGACCACAGCCCTGTC TTTGCCACATTTGAGGCAGGAGTCACTTCCCAGTTTGTCTCCAAGAACGGTCCCGGGACTGTTGACAGCCAAGGA CAGATTGAGTTCTCAGGTGCTATGCCACATTGAAGACCAAGTCCCAGACCAAATTCTACCTGGAGTTCCACTCG TTTGGTGAGACTCTTCCAAAGCTGAAGCCCATTATCTCTGACCCTGAGTACCTGCTAGACCAGCACATCCTCATC AGCATCAAGTCCTCTGACAGCGACGAATCCTATGGCGAGGGCTGCATTGCCCTTCGGTTAGAGGCCACAGAAACG CAGCTGCCCATCTACACGCCTCTCACCCACCATGGGGGAGTTGACAGGCCACTTCCAGGGGGAGATCAAGCTGCAG ACCTCTCAGGGCAAGACGAGGGAGAGCTCTATGACTTTGTGAAGACGGAGCGTGATGAATCCAGTGGGCCAAAG ACCCTGAAGAGCCTCACCAGCCACGACCCCATGAAGCAGTGGGAAGTCACTAGCAGGGCCCCTCCGTGCAGTGGC TCCAGCATCACTGAAATCATCAACCCCAACTACATGGGAGTGGGGCCCTTTGGGCCACCAATGCCCCTGCACGTG AAGCAGACCTTGTCCCCTGACCAGCCCACAGCCTGGAGCTACGACCAGCCGCCCAAGGACTCCCCGCTGGGG CCCTGCAGGGGAGAAAGTCCTCCGACACCTCCCGGCCAGCCGCCCATATCACCCAAGAAGTTTTTACCCTCAACA GCAAACCGGGGTCTCCCTCCCAGGACACAGGAGTCAAGGCCCAGTGACCTGGGGAAGAACGCAGGGGACACGCTG ATCTTGTCGCCCAGCATCGTGCTCACCAAAGCCCAGGAGGCTGATCGCGGCGAGGGGCCCGGCAAGCAGGTGCCC AAGCCCAAGACCCCGGTCAGCTCCCAGGCCCCGGTGCCGGCCAAGAGGCCCATCAAGCCTTCCAGATCGGAAATC GGCGTGAAGCCACTGGACCCTCCCGGGACCTCCTGCTGGCTCCTGCCCAGCTTCCTATGCAAGGCTTTGT GTTTTCAGGAAAGGGCCTAGCTTCTGTGTGGCCCACAGAGTTCACTGCCTGTGAGACTTAGCACCAAGTGCTGAG AGTGCCTCGTTGAGGGCGCCATTCTGAAGAAAGGAACTGCAGCGCCGATTTGAGGGTGGAGATATAGATAATAAT AATATTAATAATAATAATGGCCACATGGATCGAACACTCATGATGTGCCAAGTGCTGAAGTGCTTACGAA CATTCGTCATATCAGGATGACCTCGAGAGCTGAGGCTCTAGCCACCTAAAACCACGTGCCCAAACCCACCAGTTT AAAACGGTGTGTTCGGAGGGGTGAAAGCATTAAGAAGCCCAGTGCCCTCCTGGAGTGAGACAAGGGCTCGGCC TTAAGGAGCTGAAGAGTCTGGGTAGCTTGTTTAGGGTACAAGAAGCCTGTTCTGTCCAGCTTCAGTGACACAAGC TGCTTTAGCTAAAGTCCCGCGGGTTCCGGCATGGCTAGGCTGAGAGCAGGGATCTACCTGGCTTCTCAGTTCTTT GGTTGGAAGGAGCAGGAAATCAGCTCCTATTCTCCAGTGGAGAGATCTGGCCTCAGCTTGGGCTAGAGATGCCAA GGCCTGTGCCAGGTTCCCTGTGCCCTCCTCGAGGTGGGCAGCCATCACCAGCCACAGTTAAGCCAAGCCCCCCAA CATGTATTCCATCGTGCTGGTAGAAGAGTCTTTGCTGTTGCTCCCGAAAGCCGTGCTCCCAGCCTGGCTGCCAG GGAGGGTGGGCCTCTTGGTTCCAGGCTCTTGAAATAGTGCAGCCTTTTCTTCCTATCTCTGTGGCTTTCAGCTCT GCTTCCTTGGTTATTAGGAGAATAGATGGGTGATGTCTTTCCTTATGTTGCTTTTTCAACATAGCAGAATTAATG TAGGGAGCTAAATCCAGTGGTGTGTGAATGCAGAAGGGAATGCACCCCACATTCCCATGATGGAAGTCTGCGT

1094/6881 FIGURE 1022B

AACCAATAAATTGTGCCTTTCTCACTCA

MKNKHSEQPEPDMITIFIGTWNMGNAPPPKKITSWFLSKGQGKTRDDSADYIPHDIYVIGTQEDPLSEKEWLEIL KHSLQEITSVTFKTVAIHTLWNIRIVVLAKPEHENRISHICTDNVKTGIANTLGNKGAVGVSFMFNGTSLGFVNS HLTSGSEKKLRRNQNYMNILRFLALGDKKLSPFNITHRFTHLFWFGDLNYRVDLPTWEAETIIQKIKQQQYADLL SHDQLLTERREQKVFLHFEEEEITFAPTYRFERLTRDKYAYTKQKATGMKYNLPSWCDRVLWKSYPLVHVVCQSY GSTSDIMTSDHSPVFATFEAGVTSQFVSKNGPGTVDSQGQIEFLRCYATLKTKSQTKFYLEFHSSCLESFVKSQE GENEEGSEGELVVKFGETLPKLKPIISDPEYLLDQHILISIKSSDSDESYGEGCIALRLEATETQLPIYTPLTHH GELTGHFQGEIKLQTSQGKTREKLYDFVKTERDESSGPKTLKSLTSHDPMKQWEVTSRAPPCSGSSITEIINPNY MGVGPFGPPMPLHVKQTLSPDQQPTAWSYDQPPKDSPLGPCRGESPPTPPGQPPISPKKFLPSTANRGLPPRTQE SRPSDLGKNAGDTLPQEDLPLTKPEMFENPLYGSLSSFPKPAPRKDQESPKMPRKEPPPCPEPGILSPSIVLTKA QEADRGEGPGKQVPAPRLRSFTCSSSAEGRAAGGDKSQGKPKTPVSSQAPVPAKRPIKPSRSEINQQTPPTPTPR PPLPVKSPAVLHLQHSKGRDYRDNTELPHHGKHRPEEGPPGPLGRTAMQ

1097/6881 FIGURE 1025

MARALCRLPRRGLWLLLAHHLFMTTACQEANYGALLRELCLTQFQVDMEAVGETLWCDWGRTIRSYRELADCTWH MAEKLGCFWPNAEVDRFFLAVHGRYFRSCPISGRAVRDPPGSILYPFIVVPITVTLLVTALVVWQSKRTEGIV

1098/6881 FIGURE 1026A

GGCACGAGGCCGCTCCCCGGCGGGCTGGCTCCTGGCCCCGGAAGCGCGAGCGTTCACTTAGCGGCGAGTGGCTCC GTCTCCGCGGACAGAGCGCGCCCCTGGCCCGGCCCGCGAGGGGCTCCCGGCGCGTCCCCGAGCATTTCCCG CCCGGAAGCGCAGAAGCTGGCGGAAGCCCGGCTCGCTGCAAAACGGGCGGCCCGCGCGGAGGCTCGCGAGATCCG CATGAAGGAGCTGGAGCGGCAGCAGAAGGAGGAGGAGGAGCGCTACTCTCGTAGATCCAGAAGAAACACATC GGCTTCTGATGAAGACGAGCGCATGTCAGTGGGTAGTCGTGGAAGCCTGAGGGTAGAAGAGAGACCAGAAAAAGA AGAAGTTGAAGAGAAATATAAGAAGGCTATGGTTTCCAATGCTCAGCTAGACAATGAAAAGACAAACTTCATGTA GAAAAACAAGAATTTGAAAGGGAAAAACACGCCCACAGTATACTGCAATTTCAGTTTGCTGAAGTCAAGGAGGC CCTGAAGCAAAGAGAGGAAATGCTCGAGAAACATGGAATAATCCTAAATTCAGAAATAGCTACCAATGGAGAGAC TTCCGACACCCTCAATAATGTTGGATACCAAGGTCCTACCAAGATGACAAAAGAAGAGTTAAATGCCCTCAAGTC AGAAATCTTGCACAATACTGAGAAAGAACAACACAGAGGGACACAGTGAAGGACTGTGTGGACATAGAGGTATT CCCTGCTGGTGAGAATACCGAGGACCAGAAATCCTCTGAAGACACTGCCCCATTCCTAGGAACCTTAGCAGGTGC TACCTATGAAGAACAGGTTCAAAGCCAAATTCTTGAGAGCAGTTCTCTCCCTGAAAACACAGTACAGGTTGAGTC AAATGAGGTCATGGGTGCACCAGATGACAGGACCAGAACTCCCCTTGAGCCATCCAACTGTTGGAGTGACTTAGA GTGTCCTTTAGGGCATAGTGATGACACAGTTTATCATGATGACAAATGTATGGTAGAGGTCCCCCAAGAGTTAGA CAGTACAGAAGTAGGTAGGGATCACAACGAAGAAGAGGGTGAAGAAACAGGATTAAGGGACGAGAAACCAATCAA GACAGAAGTTCCTGGTTCTCCAGCAGGAACTGAGGGCAACTGTCAGGAAGCGACAGGTCCAAGTACAGTAGACAC TCAAAATGAACCCTTAGATATGAAAGAGCCCGATGAAGAAAAGAGTGACCAACAGGGAGAGGCATTGGACTCATC TGTTAAAAAAGAGTTAACGTATCAGAACACAGATTTAAGTGAAATTAAGGAAGAAGAGAGCAGGTAAAGTCTACTGA CAGAAAGTCAGCAGTGGAAGCCCAAAACGAGGTGACTGAAAATCCAAAACAGAAAATTGCAGCAGAAAAGCAGTGA AGCAGCTGAGGAGGTACTAGCTGATGGAGACACATTAGATTTTGAGGATGACACCGTTCAATCATCAGGCCCGAG GGCTGGTGGTGAAGAATTAGATGAAGGTGTTGCAAAAGATAATGCTAAAATAGATGGTGCCACTCAAAGCAGTCC TGCAGAACCAAAGAGCGAAGACGCAGATCGCTGCACCCTGCCCGAACATGAAAGTCCCTCACAGGACATTAGTGA TGCCTGTGAAGCAGAAGTACAGAGAGGTGTGAGATGTCAGAACATCCAAGTCAGACCGTCAGGAAAGCTTTAGA CAGCAATAGCCTAGAGAACGATGACTTGTCGGCACCAGGAAGAGGCCAGGGCACTTCAATCCAGAAAGCAGAGA GCGCGCTGCACAGGAAGTCTCAGTGTGAAGGGGTCTTTTCTCTCCACTGCCAATGTAAGTAGAATGTTCTAAATT CATAGAGAGGCACTGTATGACAATTACCAGGTGCTCTACTGCTTTAAGTTATAGACTGTTACTTGTAGATTTCCA TGTAATCATTGAGGTTATCACCCAGATTAGAAAGACATATTTGTTATCAGTGTACGTTCTAATTGAGAGCATTCC AGTAGTATCAAACAATAATGTCTACTGTTTATAGTCCACTTAATAAAAATAGAGGCATTTACTATTTGCCTTAGG CTGATAGGAATGTGGGTTTTCTTGACCAAATATATCAGCATCTAATTGAAATGACCAAATAGCATTCTTAGACTT CTGTATTATGAATATAATTGATATTTAAATTAATGTCTTGTTCACATATGTGTACTTTCATATTTGATTTTAAAA TGTACATTATAACCTGTATGGTATTTTATTTAAAGGAGATAAACAGCCAAATAGCAAATAGGTCACTGAATGATA AGATTTGCACCTTAGAACAATAATCATTTTAAGGATAACAAGTAAATGTCTGAAAGCATGAGGGGCTTTATTTGC CTTTACCTCATATGAGTCTTTGATCTTGAACCGATACTTTTTGGATCTCATTGTTGATATACCTGAATTTACTTTG TAAGAGATTTTAACTTCACTTCATGCTGATGATGTATCAAATTCATTTTATAGAAAGATTTAAAGTTTTTTTCTG GAAGTGATATATGTCAAATTACATTTCCTACTGCAGTATTTGAGCAGGGACAGTCATTTTTTAAATGTTTTTGGC CGGGCGTGGTGGCTCATGCCTGTAATCTCAGTACATTGGGAGGCCAAGGCAGGTGGATCACCTGAGGTCAAGAGT TCGAGGCCAGCCTGGCCAACATGGTGAAACCCTGTCTCTACTAAAAATACAAAAAATTGGCCGGGCGTGATGGTG GGCGCCTGTAATCCCAGCCACTCCAGAGGCTGAGGCAGGAGAATCGCTTGAACCTGCGAGGCAGAGATTGCAGTG

1099/6881 FIGURE 1026B

AGCCAAGATCAAGCCATTGTACTCCAGCCTGGACAACAAGAGCGAAACTCTGTCTA

MTSPAAAQSREIDCLSPEAQKLAEARLAAKRAARAEAREIRMKELERQQKEEDSERYSRRSRRNTSASDEDERMS
VGSRGSLRVEERPEKDFTEKGSRNMPGLSAATLASLGGTSSRRGSGDTSFSIDTEASIREIKDSLAEVEEKYKKA
MVSNAQLDNEKTNFMYQVDTLKDMLLELEEQLAESRRQYEEKNKEFEREKHAHSILQFQFAEVKEALKQREEMLE
KHGIILNSEIATNGETSDTLNNVGYQGPTKMTKEELNALKSTGDGTLGRASEVEVKNEIVANVGKREILHNTEKE
QHTEDTVKDCVDIEVFPAGENTEDQKSSEDTAPFLGTLAGATYEEQVQSQILESSSLPENTVQVESNEVMGAPDD
RTRTPLEPSNCWSDLDGGNHTENVGEAAVTQVEEQAGTVASCPLGHSDDTVYHDDKCMVEVPQELETSTGHSLEK
EFTNQEAAEPKEVPAHSTEVGRDHNEEEGEETGLRDEKPIKTEVPGSPAGTEGNCQEATGPSTVDTQNEPLDMKE
PDEEKSDQQGEALDSSQKKTKNKKKKNKKKKSPVPVETLKDVKKELTYQNTDLSEIKEEEQVKSTDRKSAVEAQN
EVTENPKQKIAAESSENVDCPENPKIKLDGKLDQEGDDVQTAAEEVLADGDTLDFEDDTVQSSGPRAGGEELDEG
VAKDNAKIDGATQSSPAEPKSEDADRCTLPEHESPSQDISDACEAESTERCEMSEHPSQTVRKALDSNSLENDDL
SAPGREPGHFNPESREDTRGGNEKGKSKEDCTMS

1101/6881 FIGURE 1028A

CAGTTTGGAGCTCAGTCTTCCACCAAAGGCCGTTCAGTTCTCCTGGGCTCCAGCCTCCTGCAAGGACTGCAAGAG GGAAAAGTATGCATCCTATTCAAACCTAATTGAATCGAGGAGCCCAGGGACACACGCCTTCAGGTTTGCTCAGGG GTTCATATTTGGTGCTTAGACAAATTCAAAATGAGGAAACATCGGCACTTGCCCTTAGTGGCCGTCTTTTGCCTC TTTCTCTCAGGCTTTCCTACAACTCATGCCCAGCAGCAGCAGCAGCAGTGTCAAAAATGGTGCGGCTGCTGATATA ATATTTCTAGTGGATTCCTCTTGGACCATTGGAGAGGAACATTTCCAACTTGTTCGAGAGTTTCTATATGATGTT GTAAAATCCTTAGCTGTGGGAGAAAATGATTTCCATTTTGCTCTGGTCCAGTTCAACGGAAACCCACATACCGAG TTCCTGTTAAATACGTATCGTACTAAACAAGAAGTCCTTTCTCATATTTCCAACATGTCTTATATTGGGGGAACC AATCAGACTGGAAAAGGATTAGAATACATAATGCAAAGCCACCTCACCAAGGCTGCTGGAAGCCGGGCCGGTGAC GGAGTCCCTCAGGTTATCGTAGTGTTAACTGATGGACACTCGAAGGATGGCCTTGCTCTGCCCTCAGCGGAACTT AAGTCTGCTGATGTTAACGTGTTTGCAATTGGAGTTGAGGATGCAGATGAAGGAGCGTTAAAAGAAATAGCAAGT GAACCGCTCAATATGCATATGTTCAACCTAGAGAATTTTACCTCACTTCATGACATAGTAGGAAACTTAGTGTCC TGTGTGCATTCATCCGTGAGTCCAGAAAGGGCTGGGGACACGGAAACCCTTAAAGACATCACAGCACAAGACTCT GCTGACATTATTTTCCTTATTGATGGATCAAACAACACCGGAAGTGTCAATTTCGCAGTCATTCTCGACTTCCTT GTAAATCTCCTTGAGAAACTCCCAATTGGAACTCAGCAGATCCGAGTGGGGGTGGTCCAGTTTAGCGATGAGCCC AGAACCATGTTCTCCTTGGACACCTACTCCACCAAGGCCCAGGTTCTGGGTGCAGTGAAAGCCCTCGGGTTTGCT GGTGGGGAGTTGGCCAATATCGGCCTCGCCCTTGATTTCGTGGTGGAGAACCACTTCACCCGGGCAGGGGGCAGC CGCGTGGAGGAAGGGGTTCCCCAGGTGCTGGTCCTCATAAGTGCCGGGCCTTCTAGTGACGAGATTCGCTACGGG GTGGTAGCACTGAAGCAGGCTAGCGTGTTCTCATTCGGCCTTGGAGCCCAGGCCGCCTCCAGGGCAGAGCTTCAG CACATAGCTACCGATGACAACTTGGTGTTTACTGTCCCGGAATTCCGTAGCTTTGGGGGACCTCCAGGAGAAATTA CTGCCGTACATTGTTGGCGTGGCCCAAAGGCACATTGTCTTGAAACCGCCAACCATTGTCACACAAGTCATTGAA GTCAACAAGAGAGACATAGTCTTCCTGGTGGATGGCTCATCTGCACTGGGACTGGCCAACTTCAATGCCATCCGA GACTTCATTGCTAAAGTCATCCAGAGGCTGGAAATCGGACAGGATCTTATCCAGGTGGCAGTGGCCCAGTATGCA GACACTGTGAGGCCTGAATTTTATTTCAATACCCATCCAACAAAAAGGGAAGTCATAACCGCTGTGCGGAAAATG AAGCCCCTGGACGGCTCGGCCCTGTACACGGGCTCTGCTCTAGACTTTGTTCGTAACAACCTATTCACGAGTTCA GCCGGCTACCGGGCTGCCGAGGGGATTCCTAAGCTTTTGGTGCTGATCACAGGTGGTAAGTCCCTAGATGAAATC AGCCAGCCTGCCCAGGAGCTGAAGAGAAGCAGCATAATGGCCTTTGCCATTGGGAACAAGGGTGCCGATCAGGCT GAGCTGGAAGAGATCGCTTTCGACTCCTCCTGGTGTTCATCCCAGCTGAGTTCCGAGCCGCCCCATTGCAAGGC ATCTTTCTTTTGGATGGATCAGCCAACGTTGGAAAAACCAATTTCCCTTATGTGCGCGACTTTGTAATGAACCTA GTTAACAGCCTTGATATTGGAAATGACAATATTCGTGTTTAGTGCAATTTAGTGACACTCCTGTAACGGAG TTCTCTTTAAACACATACCAGACCAAGTCAGATATCCTTGGTCATCTGAGGCAGCTGCAGCTCCAGGGAGGTTCG GGCCTGAACACAGGCTCAGCCCTAAGCTATGTCTATGCCAACCACTTCACGGAAGCTGGCGGCAGCAGGATCCGT GAACACGTGCCGCAGCTCCTGCTTCTGCTCACAGCTGGGCAGTCTGAGGACTCCTATTTGCAAGCTGCCAACGCC TTGACACGCGGGGCATCCTGACTTTTTGTGTGGGAGCTAGCCAGGCGAATAAGGCAGAGCTTGAGCAGATTGCT TTTAACCCAAGCCTGGTGTATCTCATGGATGATTTCAGCTCCCTGCCAGCTTTGCCTCAGCAGCTGATTCAGCCC CTAACCACATATGTTAGTGGAGGTGTGGAGGAAGTACCACTCGCTCAGCCAGAGAGCAAGCGAGACATTCTGTTC CTCTTTGACGGCTCAGCCAATCTTGTGGGCCAGTTCCCTGTTGTCCGTGACTTTCTCTACAAGATTATCGATGAG CTCAATGTGAAGCCAGAGGGGACCCGAATTGCGGTGGCTCAGTACAGCGATGATGTCAAGGTGGAGTCCCGTTTT GATGAGCACCAGAGTAAGCCTGAGATCCTGAATCTTGTGAAGAGAATGAAGATCAAGACGGGCAAAGCCCTCAAC CTGGGCTACGCGCTGGACTATGCACAGAGGTACATTTTTGTGAAGTCTGCTGGCAGCCGGATCGAGGATGGAGTG CTTCAGTTCCTGGTGCTGGTCGCAGGAAGGTCATCTGACCGTGTGGATGGGCCAGCAAGTAACCTGAAGCAG AGTGGGGTTGTGCCTTTCATCTTCCAAGCCAAGAACGCAGACCCTGCTGAGTTAGAGCAGATCGTGCTGTCTCCA GCGTTTATCCTGGCTGCAGAGTCGCTTCCCAAGATTGGAGATCTTCATCCACAGATAGTGAATCTCTTAAAATCA GTGCACAACGGAGCACCAGCTCCAGGTTCAGGTGAAAAGGACGTGGTGTTTCTGCTTGATGGCTCTGAGGGCGTC AGGAGCGGTTTCCCTCTGTTGAAAGAGTTTGTCCAGAGAGTGGTGGAAAGCCTGGATGTGGGCCAGGACCGGGTC CGCGTGGCCGTGGTGCAGTACAGCGACCGGACCAGGCCCGAGTTCTACCTGAATTCATACATGAACAAGCAGGAC GTCGTCAACGCTGTCCGCCAGCTGACCCTGCTGGGAGGGCCGACCCCCAACACCGGGGCCGCCCTGGAGTTTGTC

FIGURE 1028B

CTGAGGAACATCCTGGTCAGCTCTGCGGGAAGCAGGATAACAGAAGGTGTGCCCCAGCTGCTGATCGTCCTCACG GCCGACAGGTCTGGGGATGATGTGCGGAACCCCTCCGTGGTCGTGAAGAGGGGTGGGGCTGTGCCCATTGGCATT GGCATCGGGAACGCTGACATCACAGAGATGCAGACCATCTCCTTCATCCCGGACTTTGCCGTGGCCATTCCCACC TTTCGCCAGCTGGGGACCGTCCAACAGGTCATCTCTGAGAGGGTGACCCAGCTCACCCGCGAGGAGCTGAGCAGG CTGCAGCCGGTGTTGCAGCCTCTACCGAGCCCAGGTGTTGGTGGCAAGAGGGACGTGGTCTTTCTCATCGATGGG TCCCAAAGTGCCGGGCCTGAGTTCCAGTACGTTCGCACCCTCATAGAGAGGCTGGTTGACTACCTGGACGTGGGC TTTGACACCACCCGGGTGGCTGTCATCCAGTTCAGCGATGACCCCAAGGTGGAGTTCCTGCTGAACGCCCATTCC CTGGAGTACGTGTCCAGGAACATCTTCAAGAGGCCCCTGGGGAGCCGCATTGAAGAGGGGCGTCCCGCAGTTCCTG GTCCTCATCTCGTCTGGAAAGTCTGACGATGAGGTGGACGACCCGGCGGTGGAGCTCAAGCAGTTTGGCGTGGCC CCTTTCACGATCGCCAGGAACGCAGACCAGGAGGAGCTGGTGAAGATCTCGCTGAGCCCCGAATATGTGTTCTCG GTGAGCACCTTCCGGGAGCTGCCCAGCCTGGAGCAGAAACTGCTGACGCCCATCACGACCCTGACCTCAGAGCAG ATCCAGAAGCTCTTAGCCAGCACTCGCTATCCACCTCCAGCAGTTGAGAGTGATGCTGCAGACATCGTCTTTCTG ATCGACAGCTCTGAGGGAGTTAGGCCAGATGGCTTTGCACATATTCGAGATTTTGTTAGCAGGATTGTTCGAAGA CTCAACATCGGCCCCAGTAAAGTGAGAGTTGGGGTCGTGCAGTTCAGCAATGATGTCTTCCCAGAATTCTATCTG AAAACCTACAGATCCCAGGCCCCGGTGCTGGACGCCATACGGCGCCTGAGGCTCAGAGGGGGTTCCCCACTGAAC ACTGGCAAGGCTCTCGAATTTGTGGCAAGAAACCTCTTTGTTAAGTCTGCGGGGAGTCGCATAGAAGACGGGGTG CCCCAACACCTGGTCCTGGTCCTGGGTGGAAAATCCCAGGACGATGTGTCCAGGTTCGCCCAGGTGATCCGTTCC TCGGGCATTGTGAGTTTAGGGGTAGGAGACCGGAACATCGACAGAACAGAGCTGCAGACCATCACCAATGACCCC TCCGCAGCCACTCCTGCACCTCCAGGGGTGGACACCCCTCCTCCTTCACGGCCAGAGAAGAAGAAAGCAGACATT GTGTTCCTGTTGGATGGTTCCATCAACTTCAGGAGGGACAGTTTCCAGGAAGTGCTTCGTTTTGTGTCTGAAATA GTGGACACAGTTTATGAAGATGGCGACTCCATCCAAGTGGGGCTTGTCCAGTACAACTCTGACCCCACTGACGAA TTCTTCCTGAAGGACTTCTCTACCAAGAGGCAGATTATTGACGCCATCAACAAAGTGGTCTACAAAGGGGGAAGA ${\tt CAGCGGGTCCCTCAGATTGCCTTTGTGATCACGGGAGGAAAGTCGGTGGAAGATGCACAGGATGTGAGCCTGGCC}$ CTCACCCAGAGGGGGTCAAAGTGTTTGCTGTTGGAGTGAGGAATATCGACTCGGAGGAGGTTGGAAAGATAGCG TTGCATGATGCGATGCATGAAACCCTTTGCCCTGGTGTAACTGATGCTGCCAAAGCTTGTAATCTGGATGTGATT CTGGGGTTTGATGGTTCTAGAGACCAGAATGTTTTTGTGGCCCAGAAGGGCTTCGAGTCCAAGGTGGACGCCATC AACATGCGCAGCCAGCACCCCTACGTCCTCACGGAGGACACCCTGAAGGTCTACCTGAACAAGTTCAGACAGTCC TCGCCGGACAGCGTGAAGGTGGTCATTCATTTTACTGATGGAGCAGACGGAGATCTGGCTGATTTACACAGAGCA TCTGAGAACCTCCGCCAAGAAGGAGTCCGTGCCTTGATCCTGGTGGGCCTTGAACGAGTGGTCAACTTGGAGCGG CTAATGCATCTGGAGTTTGGGCGAGGGTTTATGTATGACAGGCCCCTGAGGCTTAACTTGCTGGACTTGGATTAT GAACTAGCGGAGCAGCTTGACAACATTGCCGAGAAAGCTTGCTGTGGGGTTCCCTGCAAGTGCTCTGGGCAGAGG GGAGACCGCGGGCCCATCGGCAGCATCGGGCCAAAGGGTATTCCTGGAGAAGACGGCTACCGAGGCTATCCTGGT GATGAGGGTGGACCCGGTGAGCGTGGTCCGCCTGGTGTGAACGGCACTCAAGGTTTCCAGGGCTGCCCGGGCCAG AGAGGAGTAAAGGGCTCTCGGGGGATTCCCAGGAGAGAGGGCGAAGTAGGAGAAATTGGACTGGATGGTCTGGAT GGTGAAGATGGAGACAAAGGATTACCTGGTTCTTCTGGAGAGAAGGGAATCCTGGAAGAAGGGGTGATAAAGGA CCTCGAGGAGAAAGGAGAAGAGAGATGTTGGGATTCGAGGGGACCCGGGTAACCCAGGACAAGACAGCCAG GAGAGAGGACCCAAAGGAGAAACCGGTGACCTCGGCCCCATGGGTGTCCCAGGGAGAGATGGAGTACCTGGAGGA CCTGGAGAAACTGGGAAGAATGGTGGCTTTGGCCGAAGGGGACCCCCCGGAGCTAAGGGCAACAAGGGCGGTCCT GGCCAGCCGGGCTTTGAGGGAGAGCAGGGGACCAGAGGTGCACAGGGCCCAGCTGGTCCTGCTGGTCCTCCAGGG $\tt CTGATAGGAGAACAAGGCATTTCTGGACCTCGGGGAAGCGGAGGTGCCGCTGGTGCTCCTGGAGAACGAGGCAGA$ ACCGGTCCACTGGGAAGAAGGGTGAGCCCGGAGAGCCAGGACCAAAAGGAGGAATCGGGAACCGGGGCCCTCGT GGGGAGACGGGAGATGACGGGAGAGACGGAGTTGGCAGTGAAGGACGCAGAGGCAAAAAAAGGAGAAAAAGGATTT

PCT/US2003/028547

1103/6881 FIGURE 1028C

CCTGGATACCCAGGACCAAAGGGTAACCCAGGTGAACCTGGGCTAAATGGAACAACAGGACCCAAAGGCATCAGA GGCCGAAGGGGAAATTCGGGACCTCCAGGGATAGTTGGACAGAAGGGAGACCCTGGCTACCCAGGACCAGCTXXX XXXXXXGGCAACAGGGGCGACTCCATCGATCAATGTGCCCTCATCCAAAGCATCAAAGATAAATGCCCTTGCTGT TACGGGCCCCTGGAGTGCCCCGTCTTCCCAACAGAACTAGCCTTTGCTTTAGACACCTCTGAGGGAGTCAACCAA GACACTTTCGGCCGGATGCGAGATGTGGTCTTGAGTATTGTGAATGACCTGACCATTGCTGAGAGCAACTGCCCA ${\tt AAGTCGGTCCTCCTGGACAAGATTAAGAACCTTCAGGTGGCTCTGACATCCAAACAGCAGAGTCTGGAGACTGCC}$ ATGTCGTTTGTGGCCAGGAACACATTTAAGCGTGTGAGGAATGGATTCCTAATGAGGAAAGTGGCTGTTTTCTTC AGCAACACCCACAAGAGCATCCCCACAGCTCAGAGAGGGCTGTGCTCAAGCTCTCAGATGCGGGGATCACCCCC TTGTTCCTTACAAGGCAGGAAGACCGGCAGCTCATCAACGCTTTGCAGATCAATAACACAGCAGTGGGGCATGCG CTTGTCCTGCCTGCAGGGAGAGCCTCACAGACTTCCTGGAGAATGTCCTCACGTGTCATGTTTGCTTGGACATC GTGGACATCGACATGGCTTTCATCTTAGACAGCGCTGAGACCACCCTGTTCCAGTTCAATGAGATGAAGAAG TACATAGCGTACCTGGTCAGACAACTGGACATGAGCCCAGATCCCAAGGCCTCCCAGCACTTCGCCAGAGTGGCA GTTGTGCAGCACGCGCCCTCTGAGTCCGTGGACAATGCCAGCATGCCACCTGTGAAGGTGGAATTCTCCCTGACT GACTATGGCTCCAAGGAGAAGCTGGTGGACTTCCTCAGCAGGGGAATGACACAGTTGCAGGGAACCAGGGCCTTA GGCAGTGCCATTGAATACACCATAGAGAATGTCTTTGAAAGTGCCCCAAACCCACGGGACCTGAAAATTGTGGTC CTGATGCTGACGGGCGAGGTGCCGGAGCAGCAGCTGGAGGGGCCCAGAGAGTCATCCTGCAGGCCAAATGCAAG GGCTACTTCTTCGTGGTCCTGGGCATTGGCAGGAAGGTGAACATCAAGGAGGTATACACCTTCGCCAGTGAGCCA AACGACGTCTTCTTCAAATTAGTGGACAAGTCCACCGAGCTCAACGAGGAGCCTTTGATGCGCTTCGGGAGGCTG TTGCCATCCTTCGTCAGCAGTGAAAATGCTTTTTACTTGTCCCCAGATATCAGGAAACAGTGTGATTGGTTCCAA CCTACATCCAACCCAGTGACGACAACGAAGCCGGTGACTACGACGAAGCCGGTGACCACCACAACAAAGCCTGTA AAACCTGTGGCTGCCAAGCCTGTGGCCACAAAGACGGCCACTGTTAGACCCCCAGTGGCGGTGAAGCCAGCAACG GCAGCGAAGCCTGTAGCAGCAAGCCAGCAGCTGTAAGACCCCCCGCTGCTGCAAAACCAGTGGCGACCAAG CCTGAGGTCCCTAGGCCACAGGCAGCCAAACCAGCTGCCACCAAGCCACCACCACTAAGCCCATGGTTAAGATG TCCCGTGAAGTCCAGGTGTTTGAGATAACAGAGAACAGCGCCAAACTCCACTGGGAGAGGCCTGAGCCCCCGGT CCTTATTTTTATGACCTCACCGTCACCTCAGCCCATGATCAGTCCCTGGTTCTGAAGCAGAACCTCACGGTCACG GACCGCGTCATTGGAGGCCTGCTCGCTGGGCAGACATACCATGTGGCTGTGGTCTGCTACCTGAGGTCTCAGGTC AGTTCAACCATCAATCTAATGGTGAGCACAGAACCATTGGCTCTCACTGAAACAGATATATGCAAGTTGCCGAAA GACGAAGGAACTTGCAGGGATTTCATATTAAAATGGTACTATGATCCAAACACCAAAAGCTGTGCAAGATTCTGG GAGTCAGCCATCGCCAACTTGTCTCTGTAGAAGCTCCGGGTGTAGATTCCCTTGCACTGTATCATTTCATGCTTT GATTTACACTCGAACTCGGGAGGGAACATCCTGCTGCATGACCTATCAGTATGGTGCTAATGTGTCTGTGGACCC TCGCTCTCTGTCTCCAGGCAGTTCTCTCGAATACTTTGAATGTTGTGTAACAGTTAGCCACTGCTGGTGTTTATG TGAACATTCCTATCAATCCAAATTCCCTCTGGAGTTTCATGTTATGCCTGTTGCAGGCAAATGTAAAGTCTAGAA TTAGATGGGAAGCCTGTGTATCGTGGAGAAACAAGAGACCAACTTTTCATTCCCTGCCCCCAATTTCCCAGACT CTATGTGCACCGTTGGGACCAATGCCTTAATTAAAGAATTTAAAAAAAGTTGTAATAGAGAATATTTTTGGCATTC ATTTATACAAAGAAACTTTTTAATAAAGTATATTGAAAGTTT

AGCCCAGCGAGGCCTGTGCTGAGGGGCTGTGCTGTGCCAGGGGAGGCCCCGCACCCGGGAAGCCCAGAGGAGA GTGTGCACTCACGGAGCCCTCCTGGCAGGCCGCGTCTCTGGAGCAGCAGCCCGTGTCCCTCTGGGAGGTCAAC ${\tt TGCGGCCTCACAGCTGGGCCTGTCCCAGCACAGCCCTTGTTGGAGGGCGCACCCCGTGTCCTCAGCACCCCAGT}$ GTTGAGTGCCTTGACCTGCAGAGGGGAGCCTGTGCTGGTCCCGGGCGTCTGTGTGGCTCCTGGGTGCCCATCTGC ACCCCTGGCCCTGCGCTCAGTGGAGCCGTGCCACCGTGGGAGTGTCCAGGGTCCTGACGTAGCCCTGAG ACGTGGCCAGCTCCCTGGCCTGCCCGCACAGTGGGCCCTTGTCTCTGCTCTGGGTCAGGCGAGGCAGCCACC CATGATGAGCTCTGCAGCCTTCCCAAGGTGGCTGAGCATGGGGGTCCCTCGTACCCCTTCACGGACAGTGCTCTT CTTTGTGGAGCAGCGGCTCAGCCCTGACGACTCCCACGCCCACGCCTGGTGCTGAGGAGGGGCACGCTGGCCGG GGGCTCCGTGCGGTGGGGTGCCCTGCACGTGCTGGGGACAGCAGCCCTGGCGGAGCACCGGTCCATGAACCCCTG CCCTGTGCACGATGCTGGCACGGGCACCGTCTTCCTCTTCATCGCGGTGCTGGGCCACACGCCTGAGGCCGT GCAGATCGCCACGGGAAGGAACGCCGCGCCCTCTGCTGTGTGGCCAGCCGTGACGCCGGCCTCTCGTGGGGCAG CGCCCGGGACCTCACCGAGGAGGCCATCGGTGGTGCCGTGCAGGACTGGGCCACATTCGCTGTGGGTCCCGGCCA CGGCGTGCAGCTGCCCTCAGGCCGCCTGCTGGTACCCGCCTACACCTACCGCGTGGACCGCCGAGAGTGTTTTGG CAAGATCTGCCGGACCAGCCCTCACTCCTTCGCCTTCTACAGCGATGACCACGGCCGCACCTGGCGCTGTGGAGG

 ${\tt GAATTGGCAGCCAAC} \underline{{\tt ATG}} {\tt GCGGCGGAACGCGGCGCGGGGCAGCAACAGTCGCAGGAGATGATGGAGGTTGACAGG}$ CGGGTCGAGTCTGAAGAATCCGGCGATGAAGAAGAGGGAAGAAACACAGCAGTGGCATCGTGGCCGACCTCAGTGAA CAGAGCCTGAAGGATGGGGAGGAGGAGGAGGAGGAGCCCAGAAGAAGAACATGAGCTGCCTGTGGACATGGAA ${\tt AGTCTTCGAGAGCTGGATCTTTACGACAACCAGATCAAGAAGATTGAGAATCTGGAGGCGCTAACAGAGCTGGAG}$ ATTCTAGATATTTCTTTTAATCTGCTGAGAAACATCGAAGGGGTTGACAAGTTGACACGACTGAAAAAACTCTTC TTGGTCAACAATAAAATCAGTAAAATTGAGAACTTAAGCAACTTACATCAACTACAGATGCTAGAGCTGGGATCT ACTAAACTTCAGAACCTGGATGCGCTCACCAACCTGACAGTCCTCAGTATGCAGAGCAACCGGCTGACCAAGATC GAGGGTCTGCAGAACCTGGTGAACCTGCGGGAGCTGTACCTTAGCCACAATGGCATCGAGGTCATCGAGGGCCTG GAGAACAATAACAAACTCACGATGTTGGACATTGCATCAAATAGAATCAAAAAGATTGAAAAATATCAGCCATCTA ${\tt ACAGAGCTGCAAGAGTTCTGGATGAACGACAATCTCCTTGAGAGCTGGAGCGACCTCGACGAGCTGAAGGGAGCC}$ AGGAGCCTGGAGACAGTGTACCTGGAGCGGAACCCCTTGCAGÁAGGACCCCCAGTACCGGCGGAAGGTCATGCTC GCCCTCCCTCGTGCGGCAGATCGATGCCACGTTCGTCAGGTTC TGAGTCCTTCTTGGCTCCTCATGTGGTCCC ${\tt TCTCCTCGGAAGAACTGCCCAGCCACGGGTTTTTAACCCACCTGTTGCTCCTGAGGTCGTCACTATATCAACAGT}$ GCAATTAAATCTTGCCACACTGTC

MAAERGAGQQQSQEMMEVDRRVESEESGDEEGKKHSSGIVADLSEQSLKDGEERGEEDPEEEHELPVDMETINLD RDAEDVDLNHYRIGKIEGFEVLKKVKTLCLRQNLIKCIENLEELQSLRELDLYDNQIKKIENLEALTELEILDIS FNLLRNIEGVDKLTRLKKLFLVNNKISKIENLSNLHQLQMLELGSNRIRAIENIDTLTNLESLFLGKNKITKLQN LDALTNLTVLSMQSNRLTKIEGLQNLVNLRELYLSHNGIEVIEGLENNNKLTMLDIASNRIKKIENISHLTELQE FWMNDNLLESWSDLDELKGARSLETVYLERNPLQKDPQYRRKVMLALPSVRQIDATFVRF

FIGURE 1032A

GGATTGTGTGTGGGTGTGAGATCAACCATGAGTTCCGTTGCAGTTTTGACCCAAGAGAGTTTTGCTGAACACCGA AGTGGGCTGGTTCCGCAACAAATCAAAGTTGCCACTCTAAATTCAGAAGAGGAGGGGCGACCCTCCAACCTACAAG GATGCCTTCCCTCCACTTCCTGAGAAAGCTGCTTGCCTGGAAAGTGCCCAGGAACCCTCTGGAGCCTGGGGGAAC AAGATCCGACCCATCAAGGCTTCTGTCATCACTCAGGTGTTCCATGTACCCCTGGAGGAGAGAAAATACAAGGAT ATGAACCAGTTTGGAGAAGGTGAACAAGCAAAAATCTGCCTTGAGATCATGCAGAGAACTGGTGCTCACTTGGAG CTGTCTTTGGCCAAAGACCAAGGCCTCTCCATCATGGTGTCAGGAAAGCTGGATGCTGTCATGAAAGCTCGGAAG GACATTGTTGCTAGACTGCAGACTCAGGCCTCAGCAACTGTTGCCATTCCCAAAGAACACCATCGCTTTGTTATT GGCAAAAATGGAGAGAAACTGCAAGACTTGGAGCTAAAAACTGCAACCAAAATCCAGATCCCACGCCCAGATGAC CCCAGCAATCAGATCAAGATCACTGGCACCAAAGAGGGCATCGAGAAAGCTCGCCATGAAGTCTTACTCATCTCT GCCGAGCAGGACAAACGTGCTGTGGAGAGGCTAGAAGTAGAAAAGGCATTCCACCCCTTCATCGCTGGGCCGTAT GAGATTGTCTTCACTGGAGAGAAGGAACAGTTGGCTCAGGCTGTGGCTCGCATCAAGAAGATTTATGAGGAGAAG AAAAAGAAGACTACAACCATTGCAGTGGAAGTGAAGAAATCCCAACACAAGTATGTCATTGGGCCCAAGGGCAAT TCATTGCAGGAGATCCTTGAGAGAACTGGAGTTTCCGTTGAGATCCCACCCTCAGACAGCATCTCTGAGACTGTA ATACTTCGAGGCGAACCTGAAAAGTTAGGTCAGGCGTTGACTGAAGTCTATGCCAAGGCCAATAGCTTCACCGTC TCCTCTGTCGCCGCCCCTTCCTGGCTTCACCGTTTCATCATTGGCAAGAAAGGGCAGAACCTGGCCAAAATCACT CAGCAGATGCCAAAGGTTCACATCGAGTTCACAGAGGGCCGAAGACAAGATCACCCTGGAGGGCCCTACAGAGGAT GTCAATGTGGCCCAGGAACAGATAGAAGGCATGGTCAAAGATTTGATTAACCGGATGGACTATGTGGAGATCAAC ATCGACCACAGTTCCACAGGCACCTCATTGGGAAGAGCGGTGCCAACATAAACAGAATCAAAGACCAGTACAAG GTGTCCGTGCGCATCCCTCCTGACAGTGAGAAGAGCAATTTGATCCGCATCGAGGGGGACCCACAGGGCGTGCAG CAGGCCAAGCGAGAGCTGCTGGAGCTTGCATCTCGCATGGAAAATGAGCGTACCAAGGATCTAATCATTGAGCAA AGATTTCATCGCACAATCATTGGGCAGAAGGGTGAACGGATCCGTGAAATTCGTGACAAATTCCCAGAGGTCATC ATTAACTTTCCAGACCCAGCACAAAAAGTGACATTGTCCAGCTCAGAGGACCTAAGAATGAGGTGGAAAAATGC ACAAAATACATGCAGAAGATGGTGGCAGATCTGGTGGAAAATAGCTATTCAATTTCTGTTCCGATCTTCAAACAG TTTCACAAGAATATCATTGGGAAAGGAGGCGCAAACATTAAAAAGATTCGTGAAGAAAGCAACACCAAAATCGAC CTTCCAGCAGAGAATAGCAATTCAGAGACCATTATCATCACAGGCAAGCGAGCCAACTGCGAAGCTGCCCGGAGC AGGATTCTGTCTATTCAGAAAGACCTGGCCAACATAGCCGAGGTAGAGGTCTCCATCCCTGCCAAGCTGCACAAC TCCCTCATTGGCACCAAGGGCCGTCTGATCCGCTCCATCATGGAGGAGTGCGGCGGGGTCCACATTCACTTTCCC GTGGAAGGTTCAGGAAGCGACACCGTTGTTATCAGGGGCCCTTCCTCGGATGTGGAGAAGGCCAAGAAGCAGCTC CTGCATCTGGCGGAGGAGAAGCAAACCAAGAGTTTCACTGTTGACATCCGCGCCAAGCCAGAATACCACAAATTC CTCATCGGCAAGGGGGGGCGCAAAATTCGCAAGGTGCGCGACAGCACTGGAGCACGTGTCATCTTCCCTGCGGCT GAGGACAAGGACCAGGACCTGATCACCATCATTGGAAAGGACGCCCGTCCGAGAGGCACAGAAGGAGCTGGAG GCCTTGATCCAAAACCTGGATAATGTGGTGGAAGACTCCATGCTGGTGGACCCCAAGCACCACCGCCACTTCGTC ATCCGCAGAGGCCAGGTCTTGCGGGAGATTGCTGAAGAGTATGGCGGGGTGATGGTCAGCTTCCCACGCTCTGGC ACACAGAGCGACAAAGTCACCCTCAAGGGCGCCAAGGACTGTGTGGAGGCAGCCAAGAAACGCATTCAGGAGATC ATTGAGGACCTGGAAGCTCAGGTGACATTAGAATGTGCTATACCCCAGAAATTCCATCGATCTGTCATGGGCCCC GTTCACAGTACAGAGCCAGTTGTCCAGGAGAATGGGGACGAAGCTGGGGAGGGGAGAGAGGCTAAAGATTGTGAC CTGGAGGCATTGGTTCCTGTCACCATTGAAGTAGAGGTGCCCTTTGACCTTCACCGTTACGTTATTGGGCAGAAA ATCATCGCCATCACGGGCCTCGCTGCAAATTTGGACCGGGCCAAGGCTGGACTGCTGGAGCGTGTGAAGGAGCTA CAGGCCGAGCAGGAGGACCGGGCTTTAAGGAGTTTTAAGCTGAGTGTCACTGTAGACCCCAAATACCATCCCAAG ATTATCGGGAGAAAGGGGGCAGTAATTACCCAAATCCGGTTGGAGCATGACGTGAACATCCAGTTTCCTGATAAG GACGATGGGAACCAGCCCCAGGACCAAATTACCATCACAGGGTACGAAAAGAACACAGAAGCTGCCAGGGATGCT ATACTGAGAATTGTGGGTGAACTTGAGCAGATGGTTTCTGAGGACGTCCCGCTGGACCACCGCGTTCACGCCCGC ATCATTGGTGCCCGCGGCAAAGCCATTCGCAAAATCATGGACGAATTCAAGGTGGACATTCGCTTCCCACAGAGC

FIGURE 1032B